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OF THE LATE
Revd. OWEN THOMAS, D. D.
LIVERPOOL.
PURCHASED AND PRESENTED BY
MR WILLIAM THOMAS,
BOOTLE, LIVERPOOL.
TO
THE THEOLOGICAL COLLEGE,
BALA.
DECEMBER, 1891.

A

MONOGRAPH

UPON

ACONITE:

ITS

THERAPEUTIC AND PHYSIOLOGICAL EFFECTS

TOGETHER WITH

ITS USES,

AND

ACCURATE STATEMENTS DERIVED FROM THE VARIOUS SOURCES OF MEDICAL LITERATURE.

TRANSLATED FROM THE GERMAN OF DR. REIL,

Teacher of Medicine and Physician at Halle,

BY

HENRY B. MILLARD, A.M., M.D.

Prize Essay.

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TRANSLATOR'S PREFACE.

FEW remedies in the materia medica enjoy a higher and more deserved reputation for usefulness than that which is the subject of this Monograph, or have received more consideration from writers eminent in medicine, of every age and school.

The whole history of Aconite, from the time when writers assigned it a mystic creation "from the spittle of the Hell-hound Cerberus," and looked upon it only as a violent poison, through later ages, as its uses and properties were brought one by one to light, down to the present day, when it stands developed in all its extraordinary virtues, an almost indispensable instrument in alleviating suffering and curing disease, is full of interest.

The Essay of DR. REIL, containing the most recent facts and experience in relation to the subject, and completely ex-

hausting, as it does, everything of interest connected with it, may be justly regarded as the most thorough and complete treatise upon Aconite ever yet presented.

These considerations, with the hope that he may be, in some degree—in however humble a manner—instrumental in extending the knowledge of this valuable accessory to the healing art, have induced the undersigned to present an English version of the treatise referred to. For the convenience of the reader, he has subjoined a carefully prepared index of the diseases in which Aconite is recommended, together with a list of writers referred to, and has also given translations of the various extracts from the Latin, Greek, &c.

H. B. MILLARD, M. D.

61 MADISON AVENUE,
New-York, October, 1859.

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PREFACE.

In 1854, Dr. Roth offered in Paris, for the best essay on the physiological and therapeutic action of Aconite, a prize of five hundred francs—a sum which had been placed at his disposition, for this purpose, by one devoted to the interests of homœopathy—and designated, to examine and decide upon the merits of the essays which should be presented for competition, Dr. Hirschel, of Dresden, and Drs. Meyer and Müller, of Leipzig.

To the following Monograph on Aconite, of which Dr. Reil declared himself the author, these gentlemen awarded the full prize, after he had expressed his willingness to add to the work the various contributions relative to the subject which had made their appearance within the last two years, and to undertake some alterations. This done, nothing was wanting to the praiseworthy object of Dr. Roth but to give the work publicity through the press,—a task to which the undersigned has devoted himself so much the more willingly as he believed that, by so doing, he could best express to his colleague at Paris, his thanks in the name of homœopathy.

DR. CL MÜLLER.

Leipzig, *February*, 1858

INTRODUCTION.

"Vestigiis territus horreo sterilem inquirendi laborem, utrum Aconitum Theophrasti, Dioscoridis, Plinii aliorumque inter veteres cum nostro idem sit, an potius illud ad aliud longe plantarum genus, ut Ranunculum, referendum: item, an quæ stirps ab Arabum interpretibus et sectatoribus Napellus ob radicem napiformem dicta, nostra sit.—In hisce tenebris non licet vires Napelli ex veterum sensis repetere, qui quidem suum Aconitum tam deletarium habuerunt, ut ab Hecate inventum aut ex Cerberi spuma enatum pronunciarent. Nosmet vero maneamus in terrenis, cum quibus nobis major familiaritas."—Murray.

"Terrified by the foot-steps, I shrink from the barren task of inquiring whether the Aconite of Theophrastus, Dioscorides, Pliny, and other of the ancients, is the same as our own, or whether it is to be referred to a far different class of plants, as Ranuculus; and, also, whether the root called Napellus by the Arabian interpreters and followers, on account of its napiform root, be identical with ours. We are not justified in this obscurity, for the purpose of ascertaining the character of Napellus, in having recourse to the opinions of the ancients, who looked upon their Aconite as so poisonous that they declared it invented by Hecate, or sprung from the saliva of Cerberus. Let us rather remain in terrestrial spheres, where we are more at home."—Murray.

We yield a cordial assent to this expression of one so highly honored as an expositor of the materia medica as Murray, and, for the following reasons, must refrain from all historical and critical investigations into the difference or identity between the plant known by the name of Aconite among the ancients, and the plant now designated by that name:

First, On account of the meagreness of the old treatises on plants, as well as on account of the various modifications in the

characters of Aconite, this proof would be, not simply difficult, but almost impossible. We refer, on this point, to the works of Matthiolus, Reinhold, Linné, Reichenbach, Hartlaub, Schroff, and others. See "Literature."

Secondly, Such an investigation would be but of little benefit, could we establish beyond a doubt the identity of the old with the new Aconite. We could, at best, find, in ancient times, confirmations of the poisonous qualities of this plant, while we could obtain, for a physiological sphere of action, scarcely the first rudiments.

In the third place, The latest investigations, and particularly those of Schroff, have clearly demonstrated that every variety of Aconite growing in Europe contains the same active principle in all parts of the plant, though it differs, in degree of intensity, according to the species, locality, season, and part of the plant.

Here, too, we may observe that an inquiry as to the variety of Aconite which was proved and introduced into our materia medica by Weffer, Störck, Hahnemann, and others—whether Napellus, Cammarum, Neomontanum, Variegatum, &c.—would be idle, and would produce no material alteration, and, at best, such a sifting would only confound the more the already existing confusion.

Yet, the historical part of our subject cannot be wholly passed over in silence, inasmuch as we can refer to short, though certain periods, which furnish additions to the toxicological, therapeutic, and physiological experience we possess of Aconite. The consideration of this possesses an additional interest, from the fact that, in endeavoring to give an idea of the knowledge which was possessed of this plant, and which was extended over distinct periods of time, we obtain, at the same time, a glimpse of the position which medicine occupied in those times.

If we will promise to be as brief as possible, will the reader kindly favor us with his attention for a short time?

PART I.

HISTORICAL.

As regards the historical part of our knowledge of the therapeutic and poisonous properties of Aconite, the subject divides itself into four periods:

The first commences with the time when we first became acquainted with it, and with the mythological accounts of the history of the world, and extends to the time of MATTHIOLUS, 1560.

The second comprises the period of the first physiological proving of it, by MATTHIOLUS, to STÖRCK'S first therapeutic investigations, 1760.

The third period commences with STÖRCK, and terminates with the communications of HAHNEMANN, in his "Fragmentis de viribus medicamentorum positivis," 1805.

Finally, the fourth period conducts us from HAHNEMANN to the latest times.

PERIOD I.

We said that the first period of our knowledge begins with the mythological time of the world's history and our first acquaintance with it. In this period, a poisonous plant, known by the name of Aconite, made its appearance, and so deadly a poison that mythology attached to its origin the frightful story that it sprang from the spittle of the Hell-hound Cerberus:

"*Ἱστορεῖται γὰρ τὸν Κέρβερον ἐξανεχθέντα μὴ δύνασθαι ὑπομεῖναι τὰς αὐγὰς τοῦ ἡλίου καὶ ἐμέσαι, καὶ ἐκ τοῦ ἐμετοῦ ταύτην γενέσθαι τὴν βοτάνην. Ἀχέρων δὲ ποταμὸς ἐν Ἡρακλείᾳ τῇ Ποντικῇ, ἔνθα τὸν τοῦ Ἅδου κύνα ὁ Ἡρακλῆς ἐξήγαγε, καὶ ὁ λόφος ἀκόνιτος λέγεται.*"

"For it is related that Cerberus, being born, could not endure the

rays of the sun, and vomited, and from the vomit sprang the plant. But the Acheron is a river in Heraclea, in Pontica, where HERCULES led out the dog from Hades, and the hill is called *Aconitos*."

So the Greek scholiast of the "Alexipharmaca" of NICANDER where he says, verse twelfth and thirteenth:

> "*Ἀλλ' ἤτοι χολόεν μὲν ἐδεστομίοισι δυσαλθὲς*
> *Πνυθείης ἀκόνιτον, ὃ δή ῥ' Ἀχερώϊδες ὄχθαι*
> *Φύουσιν—*"

"But know the bitter Aconite, deadly to those eating it, but the Acheroian banks bear it."

OVID gives the same fable—Book VII. of the Metamorphoses, verse 413. Another tradition ascribes the discovery of this poison to HECATE, in relation to which DIODORUS Siculus, Lib. IV., Cap. 45, says:

"*Φιλότεχνον δ'εἰς φαρμάκων θανασίμων συνθέσεις γενομένην τὸ καλούμενον ἀκόνιτον ἐξευρεῖν καὶ τῆς ἑκάστου δυνάμεως πεῖραν λαμβάνειν μίσγουσαν ταῖς διδομέναις τοῖς ξένοις τρόφαις.*"

"She (Hecate) being skilled in the composition of deadly poisons, was the first to discover the plant called Aconite, and was accustomed to make trial of the efficacy of every poison, by mixing it with the food set before strangers."

The probability is that originally a certain plant yielded the poison, "*ἀκόνιτον*," and, in later times, the term came simply to signify any powerfully acting poison.

DIOSCORIDES, whose description of his "*ἀκόνιτον ἕτερον*" undoubtedly refers to one of the varieties of Aconite known to us, refers to its poisonous qualities (Lib. IV., C. 78,) in the following words:

"*ῥίζαις χρῶνται πρὸς τὰς τῶν λύκων θηράς, ἐντίθεντες κρέασιν ὠμοῖς βρωθεῖσαι γὰρ ὑπὸ τῶν λύκων ἀναιροῦσιν αὐτούς.*"

"The roots are employed for catching wolves, placing them in pieces of raw flesh, which, being eaten by the wolves, they kill them."

Everything which we find in the later writings of this period, relative to Aconite, is borrowed wholly from DIOSCORIDES, and, even as late as the eighteenth century, have his statements in regard to this plant been copied, almost verbatim, in the handbooks of poisons and plants, and have been accepted without question.

GALEN (Lib. IV., Simpl. Medic.,) ascribes to both the varie-

ties mentioned by DIOSCORIDES, as well as to several kinds of plants entirely different, but called species of Aconite, the same qualities:

"Aconitum-pardalianches putrefaciendi facultatem obtinet et lethale est, itaque in cibo potuque fugiendum; attamen ad putrefaciendum externas corporis partes aut circa sedem idoneum est. Herbæ vero radix ad hæc utilis est. Quod autem Lycoctonon vocatur, similem alteri facultatem habet, sed peculiariter lupos sicut illud pardos interficere consuevit."

"Aconitum-pardalianches possesses the property of putrefying, and is a deadly poison, and therefore to be avoided in food and drink; it is proper, also, for corroding the parts outside of the mouth and anus. The root is the part of the plant to be employed for this purpose. The variety known as Lycoctonon also possesses properties similar to the other, but is particularly poisonous to wolves, as the other is to panthers."

PLINY speaks of Aconite as a plant whose poisonous qualities are generally known. He alludes, however, to its employment in diseases of the eyes, as follows:

"Sed majores oculorum quoque medicamentis Aconitum misceri saluberrime promulgarere, aperta professione malum quidem nullum esse sine aliquo bono."

"But the ancients asserted that Aconite might be mixed, with the best results, with medicines for the eyes; openly professing their belief that there was no evil that had not some good in it."

We find, in AVICENNA, (Lib. Canonis II., Tract. II., Cap. 371,) in the following words, under the heading "De infectore canis," (Ac.-lycocton.) the first account of the manner of the poisonous action of Aconite:

"Facit accidere fluxum sanguinis narium et sputum sanguinis; interficit canes velociter."

"It causes hæmorrhage from the nose and bloody expectoration, and speedily proves fatal to dogs."

Farther on (Cap. 684): "And is administered neither internally nor externally."

But, more in detail, (Lib. IV., Fen. VI., Tr. 1, Cap. 1,) under "Summa secunda venenorum e plantis:"

"Napellus est deterioribus. Et accidit potati ipsum ut apostementur labia ipsius et lingua ejus et egrediuntur oculi ejus et frequens fiunt super ipsum vertigo et syncopis et non exercere seu

movere potest crura ipsius, et est malum, et qui evadunt ex eo raro evadunt quin cadant in hecticam aut phthisin, et quantopere facit epilepsiam odor ejus. Et ejus succo imbibuntur sagittæ et interficiunt, quem inveniunt, statim."

"Napellus is among the worst. And it happens, to one having drunk it, that his lips and tongue become swollen, his eyes protrude, frequent vertigo and syncope come upon him, and he is neither able to exercise or move his legs, and his condition is pitiable, and those who escape from this seldom escape from falling into a hectic or phthisis, and sometimes the odor produces epilepsy. Arrows are dipped in its juice, and kill, with great speed, whomsoever they come in contact with."

As antidotes, AVICENNA mentions emetics, with Mustard and Eruca, a decoction of Acorn shells in wine, (Tannic-acid, which is certainly the best antidote to such plants,) Theriak, and the mouse which lives on its root.

In chapter twenty-three of the same treatise, AVICENNA gives the symptoms of poisoning of two other species of Aconite:

"Accidunt ei qui sumit ex eis ambobus: ponticitas in palato et uva et meri et canna pulmonis, et siccitas cum apostemate: et elevatur ex ore ejus vapor fumosus et pervenit res ad gravitatem linguæ ejus et tremorem temporum ipsius: deinde ad tremorem et spasmum et obfuscationem coloris et præfocationem: et fit illud cum rugitu in ventre et ventositate plurima: et accidunt bibenti scotomata et tenebrositas oculi, quoties vult ire aut moveri, cum humore in oculis; et gravatur pectus ejus."

"The person, who partook of both kinds, was affected with swelling in the palate, uvula, gullet, and trachea, and dryness accompanied by swelling; a smoky vapor rose from his mouth, and heaviness of the tongue and a tremor of the temples set in, and afterwards, tremors, spasms, obscuration of color, and suffocation. This took place with a rumbling in the belly, and with a great deal of flatulence, and the person drinking the poison experienced, as often as he wished to go or move, dizziness and cloudiness of vision, with humor in the eyes, and his breast was heavily oppressed."

There is certainly a striking resemblance between this symptomatology and the action of Aconite, which has been so long familiar to us. He recommends, as antidotes, emetics and injections, Origanum, Ruta, Absynthe wine, in which Iron has been dissolved, deer's blood, anointing, &c. The story told, according to RUFUS, by AVICENNA, (Lib. IV., Fen. VI., Tr. I.,) of a maiden, who fed herself upon Napellus, in order to destroy

kings who sought intercourse with her, belongs, however, entirely to the domain of fables.

From the above, we see that the old physicians both recognized and feared the poisonous properties of Aconite; whether they became acquainted with them from cases of accidental poisoning, or whether they were instinctively led to its employment, as the savages of America find out poisons, cannot be determined. It is evident, too, that, in proportion to their knowledge of the plant, they treated cases of poisoning by it in a very rational manner; but, at the same time, they made no particular use of it as a remedy in disease. The passages quoted above from GALEN and PLINY, recommending it as a remedy suitable for external use, are very doubtful, and it is more than questionable whether the *κάμμαρον*, which HIPPOCRATES ("De locis in homine," page 418, ed Fœsius, Genev., 1657,) recommends as a remedy in febrile heat—translated by FŒSIUS, *medicamentum refrigerans*—is to be regarded as Aconitum-cammarum.

Whatever opinion may be entertained in regard to the botanical similarity between the Aconite of the ancients and that known to us, it is a fact, which even a superficial comparison establishes, that there is a striking similarity between the symptoms of poisoning last described by AVICENNA and the symptoms which are now universally recognized after poisoning from Aconite or Aconitine.

PERIOD II.

With the exception of the careful inquiries into the botanical relations of the varieties of Aconite quoted by DIOSCORIDES—in which he corrects, with great discrimination, the errors of the older botanists—MATTHIOLUS deserves the credit of having instituted the first series of experiments, for the purpose of establishing its poisonous qualities, and of testing the efficacy of the various substances recommended as antidotes.

His experiments derive additional importance from the fact that they were made upon men—being tried, as was customary in his time, upon criminals condemned to death. Whether, in the cases which he has narrated (Part II.), death was prevented by the antidotes which were administered, or, as we would more willingly believe, whether the doses administered were too small

to produce a fatal result, we leave to be determined; in either case, the experiments are as interesting as they are deserving of praise, and furnish a decided confirmation of the earlier observations, namely AVICENNA'S, as well as of the later. They prove the action of Aconite *in maximo*. The stories mentioned, related in the communications of MATTHIOLUS, of shepherds "qui assandis aviculis Napelli caule pro veru temere usi sunt et necati sunt," ("who rashly used the stalks of the Napellus for roasting little birds, and were killed"), like many other anecdotes of the same kind, are fabulous.

REMBERT DOEDENS (Pempt. III., Lib. IV., Cap. 21 et 22,) gives the following account of a case of poisoning which took place at Antwerp, and which proves the poisonous action of Aconite.

"Evidenti sed perquam miserabili experimento, id Antverpiæ olim compertum, in recenti adhuc est memoria. Cum enim ab imperitis hujus (plantæ) inter acetaria illatæ essent radicis, quicunque eas ederunt, mox sævissimiss correpti symptomatibus brevi vitam cum morte commutarunt."

"But it was formerly discovered at Antwerp, by an evident though unfortunate proof, the remembrance of which is yet recent. The roots of this plant, being mixed by some ignorant persons with a salad, all those who partook of it were seized with violent symptoms, and perished in a short time."

Unfortunately the symptoms which were observed are not given.

At the same time, DOEDENS denies the efficacy as an antidote attributed, according to the preface of ANTONIUS GUANER, to the mice which live upon its roots. Mice themselves, he says, cannot live upon it, nor had he ever seen any roots gnawed by them; the flies which stick to its leaves are rather implied, as is maintained by a philosopher, who recommends them as an antidote. The case of poisoning at Antwerp is also mentioned by J. BAUHIN, p. 653.

"Quin et TURNERUS perhibet, Gallos quosdam Antverpiæ pro imperatoriæ in acetario comestis Napelli radicibus inter biduum omnes obiisse, exceptis duobus histrionibus, qui eas revomuerint."

"TURNER relates that some Frenchmen, at Antwerp, having eaten, in a salad, the roots of Aconite, which had been mistaken for Masterwort, all died within two days, except two actors, who vomited them up."

Speaking of the poisonous effect of Aconite upon animals, BAUHIN adds:

"Narravit nobis nobilis quædam fœmina, multas aliquando gallinas, quæ 'Narrenkappe' comedissent, fuisse mortuas."

"A certain lady of rank has told us, that formerly a number of hens, which ate the 'Narrenkappe,' died."

HIERONYMUS BOCK also alludes (Cap. 82, p. 95), where he treats of Wolfsbane and Monkshood, to a case of poisoning:

"Wolfsbane and the blue Monkshood are both of an acrid quality and character, and are not to be employed upon the body, as was clearly shown in the case of those persons at Antorf, who died after having eaten of this root, prepared in the form of a salad. The root, seeds, or the plant itself, bruised when green and dried, powdered and formed into a salve with oil, drives away lice and nits. This remedy would have been of service to the proud SULLA, at Rome, whom the citizens drove away, and who was eaten by lice." (!!)—PLIN., Lib. XXII., Cap. VI.

BAPTIST VAN HELMONT is quoted by GMELIN (Vegetable Poisons, p. 721), as good authority that Aconite can produce madness.

In the perusal of those portions of VAN HELMONT, relative to this point, in the chapter entitled "Demens Idea," it is impossible to divest one's self of the idea that the imagination of the experimenter VAN HELMONT was too much excited by the transcendental, mystical, theosophical, and philosophic object which he had in view, to give us the naked facts which he observed, and that he put rather a fabulous and mystical interpretation upon the symptoms which occurred. For example, he took Aconite as a well-known dangerous poison, for the purpose of discovering, through its agency, the location of the soul. What he found out, we give in his own words:

"Ac semel, cum ejus radicem ruditer præparassem, degustavi in apice linguæ. Etenim quamquam nil deglutiveram, multumque salivæ sputitaveram, sensi tamen mox abinde cranium velut zona forinsecus stringi. Tandem obvenit mihi (quod nunquam alias) quod sentirem, me nil intelligere, concipere, sapere vel imaginari in capite, pro more alias solito, sed sensi cum admiratione aperte, dilucide, discensive atque constanter, totum istud munus obiri in præcordiis, et expandi circa os stomachi, idque adeo sensibiliter et clare sensi, imo attente notavi, quod quamvis etiam sentirem sensum et motum, *sospires*, a capite in totum dispersas: quod tota discursuum facultas notorie et sensibiliter in præcordiis esset, cum exclusione capitis, quasi tunc mens consilia sibi ibidem meditaretur.—Tandem post binas circiter horas levicula quædam vertigo bis repetita me invasit.

—Deinde tametsi postmodum aliquoties de eodem Napello degustaverim, attamen nunquam amplius quicquam tale mihi contigit."

"And once, having roughly prepared its root, I tasted it with the tip of my tongue. And, though I swallowed none of it, and spit a great deal of saliva, I felt quickly after taking it, as if the outside of my head were bound about by a zone. Yet it happened to me (what I had never experienced at any other time) that I felt that I was neither able to understand, conceive, to be wise, nor to imagine in my head as I was accustomed to do at other times; but I understood with delight—clearly, openly, intelligently, and constantly—all this faculty being centered in the præcordia, or diffused about the mouth of the stomach,—and this I felt clearly and sensibly, and even noted it attentively, that, although I felt sense, motion, and exhalations scattered from the head all over, yet the whole power of mental digression was clearly and sensibly situated in the præcordial region, and not at all in the head, and there it was that the mind seemed then to perform its deliberations. After about two hours, I was seized with a kind of light vertigo, which was twice repeated. And, although I tasted the same Napellus several times afterwards, nothing of the kind ever happened to me again."

This last statement of HELMONT, however, that, upon tasting Aconite again, he observed nothing farther, imparts to the whole of the above account, in the sense in which it is given, a suspicious appearance, and decides us to reject this, which HAHNEMANN borrowed from HELMONT.

In 1600, HERCULES SAXONIA is said to have referred to the use of Aconite against the pest. Part IV., p. 187.

HIERONYMUS CAPIVACCIUS, in his work on poisons, (Lib. VII., Cap. 7,) treats of Napellus and its poisonous qualities only in a general way, and almost in the language of AVICENNA; nor does D. SENNERT (p. 1092) make any additions, but employs the same words.

About this time, according to SCHENK AB GREIFENBURG, a trial was made by RICHARD, to test the efficacy, as an antidote, of Bezoar-stone, the experiments—an account of which is given in Part II., and of which HAHNEMANN availed himself—being performed upon criminals condemned to death.

The question of the innoxious qualities of the Aconitum-napellus is discussed by Dr. MARTIN BERNHARD A BERNITZ (Observation XLII., in the Ephem. Acad. Nat. Curios., Vol. II., ann. 1617, p. 79); according to which, a servant picked among other vegetables—for the purpose of preparing a *jusculum* called

a pottage—the leaves of Napellus, which had been transplanted from the Carpathian mountains, observing, as he plucked them, to the gardener, who happened to be standing by: "You Poles and Dutch do not know what is good!"—Previous trials, made by physicians upon this kind of food, for the purpose of ascertaining whether it was hurtful, had never been attended with the slightest ill effect.—HERTODT, according to ETMÜLLER'S written communication to him, gives a similar, or, perhaps, the same case ("Crocology"), and, under the heading, "Whether Saffron be an antidote to Napellus?"—asserts that ETMÜLLER was not so much in the wrong when he maintained, in regard to this case, that bad results from eating Aconite were prevented by the abundant use which the Poles made of Aconite in all their food.

As illustrative of the above, J. PATERSON HAIN relates in the same (Ephem., Vol. III., ann. 1672,) the following:

"Interim memini, dum in Polonia versarer et apud JOH. BLONSKI morarer, qui hortum speciosum habebat, quod cum eundem Napellum ex montibus Carpathicis allatum et transplantatum ex horto illius accepissem et famulo meo nobili Polono ad hospitium meum in agro Luclaviano in submontana regione deportandum dedissem, illi manus sinistra, in qua portabat Napellum, tremere, primo paululum, postea vehementius inciperet et ille in animi deliquium cadere cœperit, ita ut theriaca accepta venenum abigere opus habuerit. Ille autem servus plica laborabat. Unde liquet, non ita facile Napellum naturam exuere; etsi enim in his, quibus calor nativus fortior erat, tam facile veneni sui ex transplantatione reliquias expandere non permitteretur, nihilominus cum in debilius et a morbo contagioso pressum incidisset subjectum, quantum vis veneni valeret et adeo innoxium se non esse demonstravit.—Fuit kesmarkini civis, qui radices Napelli in pulverem redactas drachmæ pondere tertiana et quartana vexatis exhibuit cum commodo. Languebant autem ægri plurimum ab ejus sumtione, quod tamen ille non curabat. Unde crediderim Napellum Carpathii montis non adeo venenosum esse uti ille, qui in Hercynia silva crescit, cujus scrupulus unus statim interimere dicitur. Imo quidèm ille Napellus nostras cani duarum drachmarum pondere exhibitus, fere quidem ad internecionem dedit animal, theriaca tamen exhibita evasit, quamvis per totum diem lassum jaceret."

"Meanwhile, I remember, while I was living in Poland, and was residing with J. BLONSKI, who had a very beautiful garden, that when I took from the garden the same Napellus which had been brought from the Carpathian mountains and transplanted, and gave it to my servant to carry to a noble Pole, at my inn in the Luclavian

field, in the submountainous region, his left hand, in which he carried the Napellus, began to tremble—at first only a little, but afterwards more violently—and his intellect began to fail him, so that he was obliged to have recourse to an antidote to escape the poison. This servant was suffering with plica (polonica). Whence it is evident that Napellus does not easily lose its character; for, while in a person whose native heat is stronger, it does not so easily permit the remains of its poison to be dissipated by transplantation, it also shows how powerful is the character of the poison, when it falls upon one who is weaker, or is suffering with any contagious disease, and that it is not innoxious.

"There was a citizen of Kesmark, who sold, with advantage to those afflicted with tertian and quartan fever, in quantities of a drachm in weight, the roots of Aconite reduced to a powder. But the sick languished after taking it, which, however, he did not trouble himself about. Whence I am led to believe that the Napellus of the Carpathian mountains is not so poisonous as that which grows in the Hercynian forest, a scruple of which is said to cause immediate death. Indeed, two drachms of our Napellus was administered to a dog, which nearly killed the animal, but his life was saved by means of an antidote, although he lay exhausted the whole day."

A similar case is also related by J. B. Grundel, (Ephem. A. N. C., ann. 1706, Dec. III., ann. IX., p. 168,) in which disagreeable effects resulted from merely holding Aconite in the hands. The antidote, which afforded the greatest relief in this case, was fresh milk, but taken only from a goat which wore a bell on its neck:

"Contigit ibidem (in Silesia) meo tempore, quod quædam virgo cum parentibus per montes iter faceret, quæ viso Napello ob colorem valde pulchrum aliquot flores decerpsit et aliquamdiu in manibus tenuit, unde paullatim anxietas, debilitas et dum vicinum diversorium ingredi coguntur, animi deliquia secuta sunt.—

"Caupo similes casus expertus, viso Napello, illi tanquam pandoræ omnium malorum causam unice adscribens, promittit alexipharmacum infallibile et affert lac a capra recenter emulctum, quo hausto potu paulatim restituitur, ita ut post aliquot horas iter continuare potuerit."

"It happened there," (in Silesia,) says he, "in my time, that a certain girl was making a journey through the mountains with her parents, and espying the beautiful flowers of the Napellus, broke some of them off, and held them for some time in her hands; by degrees, a feeling of anxiety set in, and then debility, and, while they were obliged to enter a neighboring inn, her senses failed her.

"The inn-keeper, who was familiar with such cases, when he saw

the Napellus, ascribing to it, as it were, the cause of all the ills of Pandora, promised an infallible remedy, and brought fresh goat's milk, which, being drunk, gradually restored her, so that a few hours after she was able to continue her journey."

GRUNDEL believes, with BERNITZ, that the poisonous properties of Aconite are diminished by transplanting, and says:

"Sic memini clarissimum Dr. GREISSELIUM in montibus Neo-Stadiensibus, Austriam et Styriam separantibus, venenosam istam herbam decerpsisse et vix per quinque minuta in manibus tenuisse, unde protinus anxietas et dolores se insinuarunt. E contra idem Napellus ex iisdem montibus ad hortum botanicum Viennensem plantatus, indolem suam multum multavit, ita ut in manibus per duas horas retentus et calefactus nullum damnum attulerit, prout mecum alii botanici observarunt."

"Thus I remember, that in the Neu-Stadt mountains, separating Austria and Styria, that the distinguished Dr. GREISSELIUM plucked this poisonous plant, and had held it in his hand hardly five minutes when pain and anxiety commenced. But, on the contrary, this same Napellus, transplanted from the same mountains to the botanical garden at Vienna, changed its character, so that, when held and warmed in the hands for two hours, it produced no bad effect—several botanists observed this at the same time with myself."

These effects of holding Aconite in the bare hands, are not, however, confirmed by more recent trials; nor, upon questioning root-gatherers or apothecaries, who are in the habit of handling with the naked hands the freshly expressed juice of the Aconite root, have we ever met with one who had witnessed a similar result, and although we have often seen, in the Hartz mountains and in Switzerland, large bundles of recently gathered Aconite carried for hours, or the fresh juice pressed out of the bruised plant with the unprotected hand, we have never witnessed therefrom the slightest ill effect.

The account of LINNÆUS is also well known to us (Flora lapp., p. 179), who saw in Lapland, to his great surprise, a woman gather the young plants of the Aconite, which grew there, for food, and partake of them without injury. It follows, from this fact, that either the poisonous properties of the plant are lost in the North, or that the young shoots are innoxious. According to the experience of THIELISCH (Transac. of the Halle Society of Naturalists, Vol. I., p. 379), the leaves of the blossoming Aconite plant are eaten by goats with impunity.

We give a detailed account, in Part II., of a case of poisoning by Aconite, communicated by HAHNEMANN, and observed by BONETI, in 1679.

At the commencement of the eighteenth century, J. J. WEPFER, favorably known by his toxicological researches, published in his work, "*De Cicutæ aquat. historia*," the results of his experiments with Aconite on animals, they having been made, not only for the purpose of observing the peculiar symptoms and manner of action, but in order to arrive at some conclusions by post-mortem examinations and vivisections. The account of these trials will be found in Part II.

In an otherwise very judiciously written essay, in the Ephem. A. N. C., ann. 1712, "*De Petroleo certo contra Napelli virulentiam antidoto*," "The certain efficacy of Petroleum as an antidote to the poison of Napellus," MATTHÆI BLAU reviews the various antidotes of Aconite-poisoning recommended by the early and late writers, namely Ranunculus, Thora, Vinegar, Amber, the Aconite mouse, Aconite flies, Bezoar, Emerald, Capers, Acorn shells, Moschus, &c. But, while he farther concludes, from the known action of Aconites, that the same is in no wise "warm and dry in the fourth degree," and that "the poison of Napellus belongs to the colder class of poisons, and that its virulence depends on a fixed and coagulable acid," he says that the Sal-tartari-volatile, recommended by BOYLE, is far preferable. With still greater certainty acts Petroleum, red and white, "quod sequens comprobat experimentum: succus e Napello expressus si commiscetur cum aqua, eam nigram colore tingit: si idem succus commiscetur sanguini calenti, eundem mox coagulat et condensat; si vero sanguini a succo Napelli coagulato affunditur Petroleum, tunc coagulato statim resolvitur; quod certo argument est, Petroleum contra Napelli venenum verum esse antidotum."

"As is proved by the following experiment: if the expressed juice of Napellus be mixed with water, it tinges it with a dark color; if the same juice be mingled with warm blood, it quickly condenses and coagulates it; but, if Petroleum be added to the blood coagulated by the Napellus, the coagulation is quickly resolved, which is a satisfactory proof that Petroleum is a certain antidote against the poison of Napellus."

A bold conclusion, forsooth, but only a hypothetically recommended antidote.

We encounter, together with the naked observations made, as we have seen, by the physicians of this period on Aconite, much that is irrational and senseless. ZORN, for instance, in his "Botanologia Med.," p. 458, has been at a great deal of trouble in hunting up all the fabulous accounts of the horrid properties of this plant, and presents them to the reader with the greatest earnestness.

Among other stories, he relates, according to PAUL DE SORBAIT, that a finger-ring, set with turquoise, flew into pieces, because the wearer held in his hand Napellus!

According to COLLENHUT, a physician killed King Ladislaus and his wife with Napellus, because he offered violence to his daughter.

All else that we can find in literature, relative to cases of poisoning through Aconite, during this period, is comprised in the following:

VALVASOR, "In honor of the Duchess Crain," p. 389, gives two fatal cases of poisoning by the Aconite which grew there on the mountains. Among the symptoms, he remarked particularly rigidity of the eyes, twitching about the mouth, and deathly paleness of the countenance. He also speaks of the golden-colored flies on the Aconite as if he regarded them as an antidote.

ROS. LENTILIUS, p. 381, under the heading "*Cum venenatis herbis caute mercandum*," relates as follows:

"Prioribus annis in horto limburgico Pharmaciæ quidam deditus peregrinus hortum ex curiositate pererrabat. Hunc cum vir optimus, hortulanus, Rœderus nomine, incautius Napellum contrectantem videret, a noxia curiositate dehortatus est. Ipse vero pulverem sibi familiarem antidotalem esse dixit, cujus usu frequenti natura venenis impune adsumendis adsueverit, quo vix dicto, hortulanum quasi in rem præsentem ducturus, unum itemque aliud Napelli folium deglutiebat. Enimvero secus opinione res cecidit, semimortuo illinc homine abvecto, qui utrum sit mortuus, hortulanus non rescivit."

"In former years, in the garden at Limburg, a certain traveller, devoted to pharmacy, was walking about the garden from curiosity. When the worthy gardener, Rœderus by name, saw him incautiously handling the Napellus, he endeavored to dissuade him from his dangerous curiosity. But the latter replied that he was familiar with an antidotal powder, by the frequent use of which his nature had be-

come accustomed to taking poisons with impunity, saying which, as if about to make a trial of the thing on the spot, he swallowed one and then another leaf of the Napellus. But the result was not what he had expected, the man was carried away half dead, though whether he died, the gardener did not learn."

We find a similar case of poisoning by Aconite witnessed and treated by a physician in "Philos. Transactions," Vol. 38. *Vide* Part II. HAHNEMANN also availed himself of this case.

A singular case of poisoning, also made use of by HAHNEMANN, through the introduction of the fresh juice into a recent wound, is mentioned by ROEDER. *Vide* Part II.

About this time, MORÆUS made known, in the "Transactions of the Swedish Royal Acad. of Sciences," 1739, p. 41, a case of poisoning which had just occurred, and which we cannot pass over, because from this case HAHNEMANN, and unjustly, borrowed several symptoms. In the first place, it is very doubtful whether the plant was Aconite; secondly, MORÆUS did not witness the case himself, but became acquainted with it through a layman; and, in the third place, there is not in the whole account a word of "insania brevis," ("short fits of mental derangement,") to be found, as quoted by HAHNEMANN, "Frag. de Virib. Med. Pos.," p. 13, sympt. 16;—it must be, therefore, that he considered as indications of such a state some abusive expressions of the person poisoned, to which the latter gave utterance because a friend had induced him to partake of the dish which brought on his illness. GERSTEL, before ourselves, has also called attention to this error.—"Literature."

It need not be remarked that the dispensatories and medical books of this period (the seventeenth and eighteenth centuries) make mention of Aconite only as a poison, and without reference to the various contributions on the subject quoted by us, and which, indeed, could hardly be known to authors. Thence it is that we find, in LEMERY and TABERNÆMONTANUS, as well as ETTMÜLLER and SCHRÖDER, only the old mass of vague phraseology and irrational antidotes handed down from the followers of GALEN and AVICENNA. There are, however, some praiseworthy exceptions. BONETI, p. 566, under the heading "De venenis vegetabilibus," treats of Aconite, critically and very much in detail, and also gives two, though very doubtful cases of poisoning. Comp. Part II.

Legal medicine, also, in the investigations of cases of poisoning, began to occupy itself with the experience which had been developed concerning Aconite; for example PAULUS ZACHIAS. "Quæstiones medico-legales," p. 63 and 80, and VALENTI, "Corp. jur. med. legale," p. 141. The case given in the place referred to, relates to the suspected murder of a man by a girl, through the administration of Monksroot (Radix-monochorum). The College of physicians at Copenhagen decided, de dato xvii. June, 1657:

"Si radix est herbæ Danica lingua 'Mancke' dictæ et Latina Napellus, existimamus, ex omnium medicorum sententia, esse radicem venenatam et si interne exhibeatur, prasertim magna dosi, hominem enecare."

"If it be the root called in the Danish language as 'Mancke, and in Latin Napellus, we think, from the opinion of all physicians, that it is poisonous, and, if it be exhibited internally, especially in large doses, it is fatal to man."

ALBERTI also, in the first volume of his Jurisprudentia Medica," Cap. 13, "De homicidio per venena," section 21, speaks at length of Aconite, considered in its legal aspect.

Reviewing cursorily this second period of our knowledge of Aconite, we find it thus characterized:

We see an attempt made to learn the action of this plant, both upon men and upon animals, partly for the sake of learning simply its effects, and in part to prove the worth of certain reputed antidotes. We find also numerous, and in part, sufficiently accurate and useful records of accidental cases of poisoning, and a certain amount of attention paid to toxicology in its legal bearings. The darkness which had enveloped this mystic plant began to be dispelled, though the terrible fear of the certain and deadly effects imputed to it, was in no wise diminished. What we most miss—and it cannot be wondered at after this account—is some attempt at a therapeutic employment of this plant: for the recommendations in its favor, which we have quoted from BOCK, as an external application against lice, as an internal remedy against intermittents from HAIN, and as a remedy for worms in horses from STAHL (Comp. Part IV.), are hardly worth reckoning; but, on the contrary, we find, in all the compilers, a decided caution against its medicinal use.

PERIOD III.

The third period commences with the elevation of this dreaded poison to the dignity of a healing remedy. At about the same time that a not inconsiderable pharmacologist, GEOFFRY, said: "Since Napellus has always been looked upon, up to the present time (1762), as very poisonous, it is not judicious to make use of it, but it is better to wait until accident shall have given us a more definite knowledge of its healing powers, than to make criminal and dangerous experiments on men." About the same time, namely 1761, ANTHONY STÖRCK, so distinguished for his medicinal employment of plants regarded as poisonous and useless, made his experiments with Aconite, and published the same, together with histories of diseases, in 1762 and the year following. We must not blame the excellent STÖRCK, who probably shared in the exaggerated idea at that time existing in regard to the virulence of Aconite, if, in these experiments upon his own body, which in themselves were sufficiently praiseworthy, he went to work with a good deal of caution. Thus it happens that the symptoms observed and published by him offer so little similarity to the toxicological symptoms. But they led him to the conclusion, "That the plant might be given with safety to the sick," (Loc. Citat., p. 304), and encouraged him to fresh trials, through whose publication a new era was opened for our Aconite.

With great rapidity, if we consider the difficulties which at that time attended the diffusion of literature, communications from other physicians, relative to the valuable therapeutic properties of this else so dreaded poisonous plant, began to multiply. GREDING first gave some very striking experience in his "Sämmtlichen Medic. Schriften," Part I., p. 229. This was followed by several dissertations upon this new remedy, namely by ANDRAE, in 1768, "On the Beneficial Employment of Aconitum-Napellus in Arthritis"; by REINHOLD, "On Aconitum-Napellus," 1769, rich in the old literature relating to the subject; by SPALOWSKY, 1777, a weak excerpt from the writings of STÖRCK; by RAZOUX, 1780; and by RÖLLE, "Gleanings from the Observations on Aconite," (Spicilegium Observationum de Aconito), 1788.

To the above may be added a crowd of authors, who, in a great variety of diseases, confirmed the curative power of Aconite,

namely: COLLIN, ROSENSTEIN, BLOM, RIBE, GESNER, TODE, FRITZE, STÖLLER, VOGEL, STOLL, WAHLBORN, &c.

Yet observers were not wanting, who, together with the good results, saw dangerous symptoms arise. Two excellent accounts relative to this point were given by SAGE and HERTZ; the first of these is given in Part II. MARCUS HERTZ, in one place in his "Letters to Physicians," (Briefe an Aerzte), Collection II., Letter IV., p. 147, after praising the good effects of Aconite, says:

"Yet I must confess that, for some time, I have been very careful of the dose which I have given, never venturing to exceed half a drachm of the powder at a time, and arriving at so large a dose only by gradually increasing it. I had, last year, in the hospital, a girl with an excessively obstinate rheumatism which resisted all resolvent and evacuant remedies. Having previously effected several cures by Aconite, without observing any nervous troubles from its use, I gave it unhesitatingly to this patient, and in rapidly increasing doses, till ℈ij were given several times daily. But, all at once, she was seized with violent giddiness, her mind began to wander, and, finally, violent delirium set in. Her rheumatism disappeared, but it took several weeks and a great deal of care to cure her of her new and worse disease."

One of the most violent opponents of STÖRCK was DE HAEN, who waged against him, his remedy, and all those who adopted his opinions, a bitter warfare, as several interesting controversies which took place at this time still show. Nevertheless, STOLL preferred the use of Aconite in rheumatism, nor did he hesitate to give tolerably large doses of the extract. Comp. Part II.

Aconite was now formally received into the materia medica. LÖSECKE was the first who made room for it; MURRAY, in his "Apparatus Medicaminum," devoted a long recommendation to it; A. V. HALLER, ARNEMANN, and others, treat of it, and, in the "Hand-books of Toxicology," by PLENCK and GMELIN, are given both the poisonous symptoms and the therapeutic experience. Thus, at the conclusion of this short period, comprising scarcely fifty years, do we find the wish of GEOFFROY, quoted above, fulfilled, and the exclamation of SCOPOLI, in our motto, justified: "The most dreaded poison has become the best medicine."

But, in a short time, Aconite shared to a certain extent the fate of many other of its companions in the materia medica, that is, by some authors it was highly prized, and lauded as a panacea, by others discarded as inefficacious and unreliable, so that thirty-

five years after the commencement of the fourth period, in 1840, C. G. NEUMANN, in his observations upon the most useful medicines, could say: "It remains for the future to determine in what this plant is really useful. Hitherto the trials with it have not been attended with any very good results, though it cannot be denied that it acts powerfully upon the human body."

Yet we will not complain of this expression of a partisan of a school of medicine so unvarying in its direction, since there is, to-day, no lack of physicians, who, filled with blindness, and fanaticism towards the observations of others, give utterance to the same sentiment which NEUMANN expressed, but will turn with more pleasure to the new flight which Aconite took through the circumspection of a new inquirer.

PERIOD IV.

In 1805, SAMUEL HAHNEMANN published his precursor to the pure materia medica, viz.: the "Fragmenta de Viribus Medicamentorum Positivis, sive in Sano Corpore Humano Observatis." In this, he accords to Aconite a rank above all other remedies, and gives a list of one hundred and forty-seven symptoms which he had witnessed on healthy individuals after taking the fresh juice, thickened in the sun, of Aconitum-napellus. Of the dose of the juice, of the age and sex of the provers, we learn nothing. To these are attached the observations of others, viz.: of RICHARD, MATTHIOLUS, BACON, RODDER, MORÆUS, STÖRCK, and GMELIN, from whose accounts HAHNEMANN has borrowed several physiological symptoms.

Yet it is not (Compare what HARTLAUB says in relation to this point) at all decided what kind of Aconite HAHNEMANN employed in his provings, whether Napellus, Stœrkianum, or another species; and it is equally uncertain, indeed extremely doubtful, whether the symptoms observed by other authors, and ascribed by them to Aconitum-napellus, were in reality produced by this, and by no other species. But, since HAHNEMANN afterwards mixed the last named symptoms with the first, we should begin here a critical sifting, which we shall not, however, enter upon, for the reason that, as we expressed our opinion in the beginning, the action of all kinds of Aconite is in substance the same, and, at the most, varies only in the degree of intensity.

In 1811, the first edition of the "Materia Medica Pura" appeared, in which HAHNEMANN gave 206 symptoms, which he had observed on himself and other healthy individuals, and in addition to these, were given 108, witnessed by other and earlier observers; while, in the third edition of the "Mat. Med. Pur.," the symptoms had increased to 541, but were mixed, however, with symptoms which disappeared upon the use of Aconite upon the sick, so that the original purity of the list was lost.

When now HAHNEMANN had established the fact that, according to the law of "*similia similibus*," the employment of Aconite was universally indicated in acute diseases, his juniors made use of the new remedy in these diseases, so that soon we see it employed by them as the first panacea against all painful conditions of disease complicated with febrile excitement of the circulatory system, as well as fever in general and local troubles. But, while the therapeutic action of the medicine was made the subject of particular observation, the physiological and pharmacodynamic were not lost sight of, for further provings of Aconite on men and animals were undertaken by HAHNEMANN'S colleagues, which confirmed his statements in the most brilliant manner, and experiments were also instituted, for the purpose of throwing light upon these symptoms, and a *pharmacodynamic*, in a homœopathic sense, was worked out by GOULLON, ROTH, MEYER, and SCHNEIDER.

As a consequence, therefore, of this: first, many untenable propositions were rejected; in the second place, the therapeutic indications which had, at first, been limited to all those conditions where heat, pain, swelling, and fever were present, confined on the one side within certain bounds, were, on the other hand, extended to conditions against which HAHNEMANN did not yet know Aconite to be suited; and, in the third place, unluckily, the field of hypothesis was sometimes too sedulously cultivated. As a praiseworthy exception in this respect may be mentioned the excellent work of VEIT MEYER (Hom. Viertelj., l. c.), which may be regarded as a model of a clear exposition of the sphere of action of Aconite, and of the therapeutic employment resulting therefrom, and which, at the same time, shows the position which homœopathy at present occupies in regard to the employment of Aconite, after clearing it of all its shackles.

While this plant seemed thus to have become the exclusive property of homœopathy, there arose, out of the bosom of that system of medicine, known, in contra-distinction to homœopathy, as the old school, numerous attempts to obtain for Aconite a position among the valuable medicinal agents. The recommendations of Störck and others had not been forgotten; Aconite was transferred into the hand-books of special therapeutics, as a so-called specific against gout, rheumatism, and neuralgia; was preached in the schools, *ex cathedra*. What wonder, then, that the physicians using it in the diseases for which it had been recommended, were prepossessed in its favor when they found that the first trials of it were satisfactory. So, in addition to numerous practical communications which were published in the journals, confirmative of the curative power of Aconite, there appeared long and short treatises in the literature of the allopathic school, in which there was a conspicuous attempt to investigate and determine the special indications and sphere of action of this remedy. These inquiries received a decidedly favorable impulse in the discovery of Aconitine, which was made at this time, and to which it was believed that all the active power was due. In the latest time, very good and accurate experiments were made, by students of physiological medicine, with reference to the physiological action of Aconite on animals and men. It hardly need be said that there was no lack of cases of accidental poisoning which had been observed.

We possess such works, in many respects very laborious, useful, and careful: 1. In a therapeutic point of view, by Pallas, Turnbull, Prevost, De Man, Lombard, Subeiran, Kindervater, Busse, Fleming, and Marcello Cerioli; 2. In a physiological point of view, by Turnbull, Fleming, Schneller, Flechner, Gabalda, Schroff, and Van Praag (Comp. Literature). The histories of poisoning are given below, *in extenso*.

One would naturally conjecture that, with such abundant material, from every school and from every direction, it would be easy to arrive at a final conclusion as to the physiological and therapeutic action of Aconite. Such a result, unhappily, was however attained, but to a certain degree; writers on materia medica were either blind, or, without standing on their own feet, were such slaves to the errors which had become a part of

themselves that they could not conceal their doubt of the efficacy of our remedy. In the fifth edition of the "Handbuch der Heilmittellehre," of OESTERLEN, 1853, pp. 669 and 670, a writer who is considered, by the old school, as an authority on the materia medica, we find the following, verbatim:

"The therapeutic position of Aconite is already indicated by its physiological effects, which incline us to the belief that this remedy may be of service in certain nervous affections, particularly in those attended with nervous pain. On the whole, Aconite seems to be an unreliable and treacherous remedy, whose preparations are altogether uncertain, whose action is not sufficiently constant either upon sick or well, and to whose employment, in urgent cases, it is not safe to trust."

PART II.

PHYSIOLOGICAL.

CHAPTER I.

CASES OF ACCIDENTAL POISONING OF MEN.

a.—Accounts of Poisonings.

We shall give in this chapter, together with an account of the general symptoms of poisoning mentioned by Avicenna, Albano, and others, all the cases of poisoning published that are recognized as proceeding from Aconite. Nor, indeed, have we hesitated to present some cases which cannot with certainty claim Aconite as their cause; such cases, however, we have designated as questionable by the sign (?), and have not allowed them to enter into our final conclusions. So far as was possible, we have given the accounts of poisonings in chronological order, and in the very words of the sources whence we derived them.

1. Valvasor.—"In honor of the Duchess Crain" (Comp. Literature), Book III., Part I., p. 356:

"The maid-servant of a foreign merchant, in a large and important commercial town, went into the garden to gather some roots and fruit which were needed in the kitchen, and returned with both hands full of the blue flowers of Napellus or Aconite, having mistaken them for the blossoms of borage or oxtongue, which were employed in making salad. When these had been mixed by the thoughtless cook with the salad, and had been placed upon the table, her master, together with his son, his cashier, and another clerk, partook of it, it being somewhat dark, and difficult to see what kind of roots or flowers the salad contained. The youngest son of the family, who was a student, was the first one who entered the room after his father and his companions had partaken of the salad; and, upon opening the door, he was frightened beyond measure, as he saw the four inmates of the apartment seated in a horrible condition. For their mouths were drawn up, their eyes were fixed, their limbs stiff,

and their faces resembled in color the faces of men in their death-struggle. In short, the sight was so terrible that the young man began to tremble with fright, and to call for help. Whereupon the whole household came running up, and, perceiving the unfortunate condition of their master and those with him, medical aid was at once sent for. The physicians perceived instantly upon their arrival that some deadly poison had been taken, and some leaves of the Napellus being found in the salad-plate, concluded that it was by this plant that the poisoning had been produced. And, although the physicians administered the most powerful antidotes, and used all possible means to save these four persons, they succeeded with but two of them, the father and the clerk, who had probably eaten less of the salad, and were, perhaps, of a stronger constitution. For the son and the cashier had to pay with their lives for their unfortunate repast and the poisoned salad."

(?) 2. Boneti, Th.—"Medicina Septentrionalis." Genevæ, 1655. Fol., Pars II., Lib. VI., Sect. VI., p. 356:

"Anno 1679, 16 Martii pueri aliquot Buxtehudæ in ducatu Bremensi apud portam 'Mettenthor' dictam quandam magno suo malo invenerunt radicem, incolis istius loci 'Wildendinge' apellatam, ireos nostratis similem, odoris amœni instar Angelicæ, sapore pastinacam æmulatur.

"Estque genus Aconiti vel Doronici, copiose hic in humidis proventi. De hac radice 12 pueri ederunt, qui vix hora elapsa in subsequa symptomata inciderunt, utpote primo passi sunt maximam cordis anxietatem, omnia dentibus manibusque dilacerantes. Trihorio elapso duo istius infaustæ radicis inventores suæ temeritatis pœnam vitam cum morte commutando luerunt. Reliqui adhuc decumbunt, dentium linguæque abbreviationem patientes, maximamque sanguinis copiam evomunt, oculi extra suas orbitas tristi spectaculo rapti protuberant."

"In the year 1679, on the sixteenth of March, some boys of Buxtehuda, in the Duchy of Bremen, found, to their great detriment, at the gate called 'Mettenthor,' a certain root, called by the inhabitants of the place, 'Wildendinge,' similar to our iris, having a pleasant odor like that of Angelica, and in taste resembling the carrot.

"It is a kind of Aconitum or Doronicum, found abundantly here in moist places. Twelve boys ate of this root, who, before hardly an hour had elapsed, were seized with the following symptoms: At first they suffered a great anxiety of the heart, tearing everything with their hands and teeth. In three hours, two of the finders of this unlucky root paid with their life the penalty of their rashness. The others yet lie sick, suffering a shortening of their teeth and tongue, and vomiting a large quantity of blood; their eyes, protruding from their orbits, present a sad spectacle."

This case of Boneti, which is given by Hannemann, (J. L.

under the heading, "Noxa Comestarum Radicum Aconiti," is attended with considerable doubt. The symptoms themselves indicate a water-plant—Cicuta, Æthusa, Œnanthe; while the addition, "found abundantly in wet localities," certainly cannot refer to any of the varieties of Aconite, which does not grow in wet or moist localities, though it flourishes abundantly on the rocky banks of mountain brooks.

(?) 3. D. J. PATERSON HAIN (Ephem. Acad. Nat. Cur., Vol. III., ann. 1672, p. 404), treats of a case which we have already given on page 19 of the "Historical," of the action of Aconite held in the bare hands.

(?) 4. J. B. GRUNDEL (Eph. Acad. Nat. Cur., Vol. III., ann. 1707, p. 168), gives a case, also related in the "Historical," page 20, in which the symptoms are described which were experienced by a girl, from holding a stalk of Aconite in her hands.

5. Ros. LENTILIUS.—"Misc. Med. Pract.," p. 381. A case of poisoning, though without any of the symptoms being given, which resulted from a man's chewing and swallowing Aconite leaves. (See page 23 of the "Historical.")

6. VINCENT BACON.—"Philos. Trans.," Vol. 38. 1732 and 1734. On the evening of February 5, 1732, JOHN CRUMPLER was taken ill, in consequence of eating a salad, with which the woman who prepared it had accidentally mixed, instead of celery, the root of Aconite (spica florum pyrimidale).—MORISON.

The following symptoms were observed by BACON:

"The eyes and teeth were fixed, the nose pinched in, the hands, feet, and forehead cold, and all covered with a cold sweat, no pulse perceptible, and the breath so short as scarce to be distinguished. In spite of vomiting, which the patient produced by means of tea and oil, the symptoms still increased, (HAHNEMANN, Fragm. d. vir. med. pos., p. 12, Symp. 18).

"The physician ordered an emetic, and gave Sal.-volat. et Tinct. Croci aperient. Both were poured through his teeth, which had to be opened forcibly. After vomiting two or three times, the patient said his head was heavy (HAHN., p. 13, Symp. 3), and his strength and spirits so exhausted (H., p. 13. S. 4), though his stomach and bowels were much easier, that he needs must lie down (Symp. 5). His pulse was then a little returned, though very much interrupted and irregular, sometimes beating two or three strokes very quick together, and then making a stop of as long or a longer time than was taken up altogether by the preceding strokes (H., p. 13, S. 6).

"On the next morning, the physician found him, after the use of

Carduus tea and a draught of Aq. epid. ther. androm. Conf. alkermes, much amended; he had lain awake, though quiet, an hour or two, but, being very cold and chilly, had a great deal of covering laid on him (S. 7), and then found a kindly warmth come over his limbs, which was succeeded by a moderate sweat (S. 8), and then a quiet sleep of four or five hours, from which he awoke very much refreshed (S. 9). His senses had never failed him but during the swoonings. Upon being asked what were his sensations while and after he ate the salad, the patient replied: The first symptom was a sensation of a tingling heat, which not only affected his tongue, but his jaws, so that his teeth seemed loose (S. 13), and his cheeks were so much irritated that the people about him, nay, even his own looking-glass, could scarce persuade him but that his face was swelled to twice its proper size (S. 14). This tingling sensation spread itself farther and farther, till it had taken hold of his whole body, especially the extremities (S. 15); he had an unsteadiness in the joints, especially of the knees and ankles, with twitchings upon the tendons, so that he could scarce walk across the room (S. 16), and he thought that in all his limbs he felt a sensible stop or interruption in the circulation of his blood (S. 17), and that, from the wrists to the finger-ends, and from the ankles to the toes, there was no circulation at all (S. 18); but he had no sickness nor inclination to vomit till he took the oil. Afterwards his head grew giddy (S. 19), and his eyes misty (S. 20) and wandering (p. 13, S. 1); next a kind of humming or hissing noise seemed continually to sound in his ears (S. 2), which was followed by the syncope above related."

"A woman, who had eaten less of the salad, experienced similar but less violent symptoms; in her case, no emetic was employed; she made use of the cordial last named, and, like the man, recovered. Another woman, who from some idiosyncrasy had not eaten of the supposed celery, but had pushed it aside, suffered no ill effects, although she partook of the other ingredients of the salad."

7. Bernh. Wilh. Roedder.—M. Alberti "Jurisprud. Med.' Part VI., p. 724:

"The Beneficiary Schwartzenthal, at Neuenheerse, succeeded his confrère in his curacy, where there was a garden, in which, among other flowers, grew the Napellus. When he weeded his garden, he cut down the Napellus, and its juice happened to come in contact with a very slight wound, not bigger than the head of a needle, where the epidermis had just been bruised. Either he was not acquainted with Aconite and its poisonous nature, or he did not think it of any importance, until, all at once, he experienced—in the whole arm, and particularly in the thumb where the wound was situated—a frightful pain. Suddenly there was cardalgia and anxiety about the pit of the stomach, with fear of suffocation, lipothymia, internal heat, thirst, and other dreadful symptoms, so that he feared that he should die the following night."

The remainder of the case does not belong here; for the swelling of the arm and its pretended termination in suppuration, in spite of emollient cataplasms, cannot be regarded as the result of the action of the Aconite. Recovery took place in fourteen weeks.

(?) 8. Joh. Morœus.—"Trans. of the Swedish Royal Acad. of Sciences," 1739, p. 41:

The army-surgeon Janssen, who was travelling in company with Cornet Ternsteen, was told, in passing through Wambo, that a few days before a minister had picked up and eaten some of the Aconite flowers which grew in the gardens there (called 'Skiorbings-grass,' scurvy grass), and was made so sick that he was almost beside himself. Janssen tasted the plant, pronounced it scurvy grass, and ate more of it with oil. His companion also ate some, but not so much of it, and they took a quantity of the root with them to prepare a salad at the next station. On the way from Wambo, Ternsteen was taken sick; he felt a violent thirst, and cursed Janssen for advising him to eat the root. The latter called him a coward, and ate at once the remainder of the root. Half a mile from the next station they came to a brook, and, upon drinking, Ternsteen vomited all he had eaten. In the meantime, Janssen had fallen asleep; Ternsteen spoke to him an hour after, whereupon he awoke and gave correct answers, and again fell asleep. When, an hour after, they reached their quarters for the night, it was found impossible to awaken Janssen, his hands were cold, and he was borne in a state of unconsciousness from the wagon to bed. Aromatic salts were employed, and wine poured into the mouth, upon which he drew a few gasping respirations, but did not survive more than an hour."

(?) 9. Sigel.—"Nov. Act. Phys. Med., A. C. L. C.," Vol. VI., p. 129.

In 1771, a case of poisoning occurred at Vaihingen, which, as was ascertained after a careful botanical examination, had been caused by taking Aconite root instead of the root of Hellebore. A woman, fifty years of age, suffering with cough and hysteria, took, on the 19th of November, two cups of a vinous infusion of various kinds of plants, but which, through some mistake, contained, amongst the others, ʒij. of Aconite root. The symptoms which set in were as follows:

"Effectus eorum *ἄνω καὶ κάτω* subsecutos fuisse tam vehementes, ut valde debilitata inde at lipothymica evaderet, dieque subsequente usum infusi lubenter negligeret; die vero 21 huius et eius quidem hora postmatutina octava dimidia exhaustam cyathi partem saltem dimidiam, causam tamen fuisse, cur post paucissima temporis momenta tum vehementissimis torminibus, anxietate præcordiorum, atrocissi-

mis vomendi conatibus vomitibusque etiam subsequentibus largissimis ipsis sanguinis quidem expertibus correpta, tum etiam subsultibus tendinum, veris convulsionibus et lipothymia vexata hora 12 animam efflaverit."

"The vomiting and purging they produced were so violent that she was very much prostrated thereby, and narrowly escaped syncope. On the following day, she purposely omitted the use of the infusion; but, on the twenty-first day of this month, at half-past eight in the morning, she swallowed, at a single draught, the remaining half of the contents of the beaker, the result of which was that, in a very few moments, she was seized with violent gripings, anxiety in the præcordial region, and violent attempts at vomiting, which were finally followed by copious vomitings, free from blood, then by subsultus-tendinum, and, true convulsions setting in at twelve o'clock, she breathed her last."

The effect of the infusion upon the surgeon, who drank some of it because it had been prescribed by him, as well as the symptoms which the narrator of the story experienced after eating a little piece of the suspected root, we have given further on.

(?) 10. Kœlle.—"Spicil. de Aconito" (1788), p. 36:

"Vir 33 annorum constitutionis corporis sanæ et robustæ laborabat colica; qua ut se levaret radicem quandam a circumforaneo emebat, cujus scrupulo uno circiter vixdum assumto statim vomitu copioso et alvo sanguinem sincerum excrevit et post paucos motus convulsivos per dimidiam horam durantes obiit.—Duabus ex ventriculo defuncti particulis radicis cani datis, eadem symptomata sequebantur, morte excepto.—Ill. Schreberus radicem siccam a Cl. Zornio missam me cum communicavit, in qua gustu inveni omnes notas radicis Aconiti characteristicas, nempe ardorem pungentem lancinantem, quinque aut sex horas durantem. Forma et color manifeste indicabant, illam esse radicem Aconiti-cammari."

"A man, thirty-three years of age, of a sound and robust constitution, was suffering with an attack of colic, to relieve which he purchased from a mountebank, a certain root, and hardly a scruple of it had been taken, when he was seized with copious vomiting and diarrhœa, in which he passed pure blood, and, after a few convulsive movements, which continued during half an hour, he died. The administration to a dog of two of the particles found in the stomach of the deceased, was followed, with the exception of death, by the same results.—The illustrious Schreberus gave me some of the dried root, which had been sent him by Cl. Zornio, upon tasting which I perceived all the recognized characteristics of Aconite root—as, for example, a pungent lancinating heat, which lasted five or six hours. The shape and color showed plainly that it was the root of Aconitum-cammarum."

11. Pallas.—"Dissert. Inaugur. de Aconito." Paris, 1822, Hygea, XII p. 252:

"Five persons drank each a glass of brandy, in which, by some mistake, the roots of Aconitum-napellus had been left to macerate. The poison manifested itself in a short time, and, in three hours, three of them died, with the following symptoms: Burning sensation in the throat and belly; inclination to vomit, followed shortly afterward by vomiting and diarrhœa, with pain in the stomach and abdomen; face bloated and abdomen swollen."

12. Richard Dix.—*Lancet*, Vol. I., No. 26, 1839. *Journal de Chim. Méd.*, 2 Sér., VI., 246. Dierbach.—Entd. d. M Med., II., 449:

"A child, a year old, had been playing with a piece of the root of Aconitum-napellus, and had swallowed a portion of it. Vomiting set in, with a strong tendency to stupor; the child seemed to suffer great pain. The pulse was slow and interrupted, the pupils dilated. A cure was effected by means of external and internal remedies, particularly by affusions, sinapisms, and Turpentine enemata."

13. *Journal de Chimie Méd.*, Févr., 1840, p. 94:

"A Suippes, un jeune enfant de vingt-un mois, plein de vie, fut conduit dans un jardin par sa mère, il s'arrêta à côté d'un pied d'Aconite-napel;—il en cueillit une tige, de laquelle il détacha quelques feuilles et deux ou trois fleurs qu'il avala. Sa mère, occupée d'un autre côté, s'en aperçut aussitôt, et bien qu'elle ignorât complétement les propriétés malfaisantes de cette plante, elle la lui retira des mains et la jeta au loin. Malheureusement il était trop tard; au bout d'une demi-heure, l'enfant commença à chanceler sur les pieds, son visage s'anima, et bientôt la station devient impossible. Dans le premier moment ses parents crurent qu'on lui avait fait boire du vin chez quelque voisin, ils s'inquiétèrent peu de son état. Cependant, comme les accidents s'aggravaient de plus en plus, et que le petit malade se plaignait continuellement de souffrir du ventre, on fit appeler un médecin, deux heures environ après la manifestation des premières douleurs. Celui-ci reconnût aussitôt chez cet enfant tous les symptomes d'un empoisonnement, il s'empressa de lui administrer, comme antidote, quelques cuillerées d'une potion émétisée, dont l'effet fût de provoquer immédiatement un vomissement. Mais les secours avaient été malheureusement trop tardifs; au moment de faire prendre à l'enfant quelques cuillerées de la même potion, le médecin vit ses yeux se convulser, ses mâchoires se resserrer, le tronc se raidir et se courber en arrière, les membres ceder à des mouvements convulsifs. Cinq minutes plus tard, l'enfant avait cessé de vivre."

"At Suippes, a child, twenty-one months old, full of life, being taken by his mother into the garden, stopped by a plant of Aconite-napellus, and, breaking a branch from it, tore off some of the leaves and two or three blossoms, which he swallowed. His mother, who was occupied close by, soon perceived what her child had done, and, though she was not aware of the dangerous character of the plant, took it away

and threw it at a distance. It was, unfortunately, too late; in half an hour, the child began to stagger in his gait, his face became animated, and, at last, he was unable to stand. His parents, thinking at first that some wine had been given their child at some of the neighbors, gave themselves very little uneasiness about his condition. As, however, the symptoms increased, and as the little sufferer complained constantly of pain in the belly, a physician was sent for two hours after the first symptoms had appeared, who, recognizing at once all the symptoms of poisoning, administered with all possible speed several spoonsful of an emetic potion, which had the effect of producing immediate vomiting. But assistance had, unhappily, been summoned too late; at the moment when they were about repeating the same potion, the physician saw the eyes become convulsed, the jaws close tightly, the body stiffen and curve backwards, and the limbs give way to convulsive movements. Five minutes after, the child had ceased to breathe."

14. PEREIRA.—"Elements of Mat. Med.," II., p. 1339. FLEMING, "Inquiry," *loc. cit.*, p. 152:

"A man, together with his wife and child, had eaten Aconite root, thinking it was radish. The man had taken about one root and a half. Three quarters of an hour afterwards, he complained of burning and numbness of the lips, mouth, and throat, which soon extended to the stomach. Violent and constant vomiting then came on, and continued until within half an hour of his death. He was also affected with warmth of the chest, coldness of the extremities, pain in the head, and excessive trembling. He frequently raised his hand to his throat. He was quite conscious till within two minutes of his death, which occurred in four hours. He expired in a fainting state.

"The woman, who ate about half a root, experienced nearly the same symptoms. The paralysis and disorder in the external senses were greater, the sensibility of the body was much impaired, and she lost the power of articulation. She felt very giddy, but was neither delirious nor sleepy. Like her husband, she frequently put her hand to her throat. As in the former case, there was no purging. In five or six hours, she began to recover, and her natural warmth returned. The remedies employed were an emetic, Castor-oil, and alcoholic stimulants. No allusion is made to the children."

15. SHERWIN.—*Lancet*, II., 1836–37, 13. FLEMING, *loc. cit.*, 153.

In preparing some Aconite-tincture, Dr. SHERWIN had left a vessel standing, which contained a pound and a half of the root of Aconitum-napellus to a gallon of rectified spirits of wine. His maid swallowed a mouthful of this mixture, which she had taken in her mouth to relieve a toothache. The symptoms were:

"In five minutes, she was seized with general prickling and tingling, and a sense of enlargement of the face and constriction of the throat. In twenty minutes, sickness, blindness, and great feebleness of the extremities came on. When seen by Dr. SHERWIN, in about two hours, the eyes were fixed and protruded, the pupils contracted, the countenance livid, jaws and fauces rigid, the extremities cold and pulseless, the breathing imperfect and laborious, and the action of the heart quick and fluttering. On administering an emetic, convulsions, followed by copious vomiting supervened. The pulse at the wrist then returned, and the symptoms continued to improve, under large draughts of warm water and an occasional dose of Ammoniac. In four hours, they again became alarming, and the complexion, as well as the turgid state of the veins of the neck, indicating congestion of the brain, a pint of blood was withdrawn from the external jugular. This afforded great relief; the breathing became easier, the sight improved, the pupils dilated, and the pulse returned to the wrist. She gradually recovered. There was no purging, and conciousness was retained throughout."

16. BALDRIANI.—"Memoriale Della Medicina Contemporanea," Vol. IV., Sept., 1840, p. 296. *Aust. Hom. Ztsch.*, I., 2, 115:

Twelve patients, sick in part with scorbutus, and in part with pellagra, had, for several days, instead of the freshly expressed juice of scurvy grass, of which three ounces were given at a dose, obtained the juice of Aconite at the drug store, and were made sick every time they took it. The physician, who did not suspect any mistake, found:

"In a patient, sixty years of age, suffering with scurvy, great anxiety and impeded respiration, with inclination to vomit, and, thinking that the disease was asthma, proceeding from some gastric disorder, he ordered Ol. Ricini, and a blister to the chest. In spite of these expedients, the anxiety increased with a rapidity disproportionate to the supposed disease, the vital powers sank rapidly, and the patient soon died.

"Two old women, about fifty years of age, had taken about the same time for pellagra, Aconite-juice, instead of the juice of scurvy grass. Both were soon taken sick, suffered from dyspnœa, fell into convulsions, and then into almost paralytic weakness, and died two hours and a half after taking the poison."

BALDRIANI found, in the cases of the other patients who had taken the same dose of the juice, the following symptoms:

"Rapid sinking of the pulse, with a proportionate depression of the spirits; remarkable paleness of countenance, with an alteration of the features; blue rings about the eyes; dilated pupils, with distensive dull headache, especially in the occiput; painful stretching in the

abdomen, with borborygmi; vomiting of a green substance, and, in one case, diarrhœa of a similar character; feeling of anxiety and oppression in the breast; a general and rapidly increasing sensation of cold, particularly in the extremities, with circumscribed blueness of the nails of the fingers and toes; slight cramps in the calves; pulse small and weak, so that with some of the patients, it could not be felt."

The treatment was stimulating, and consisted for the most part in the employment of spirituous liquors. All recovered.

17. Geoghegan.—Christison, "Treatise on Poisons," 1845, p. 70. Fleming, *loc. citat.*; p. 155:

"In 1841, Mary Anna McConkey was found guilty, before the Assizes at Monaghan, of having poisoned her husband with the root of the "blue rocket," (Irish name for Ac.-napellus), and confessed the deed. She had prepared a dish by itself for him, while the family ate from a large dish, and were unharmed. But her husband was taken violently ill, immediately after dinner, and died; and a neighbor, accidentally present, who partook, though sparingly, of the same dish with him, was also similarly and violently affected, but recovered. The deceased, before finishing the greens, said they had a disagreeable sharp taste, and was seized soon after with burning at the heart, tenderness at the pit of the stomach, vomiting, coldness, a sense of biting in the tongue, and tingling through the whole flesh, excessive restlessness, occasional incoherence, locked jaw, clenching of the hands, and frothing at the mouth, and he expired three hours after the meal. His neighbor, two minutes after finishing his greens, experienced a sense of pricking in the mouth, and burning in the throat, gullet, and stomach; then salivation, a feeling of swelling in the face, without actual fullness, general numbness and creeping in the skin; next, excessive restlessness, coldness of the integuments, dimness of sight, and stupor. About an hour after the meal, he became speechless, repeatedly fainted, frothed at the mouth, and clenched his hands; vomiting ensued, with considerable relief, and subsequently he had frequent attacks of it, with purging, tenderness of the epigastrium, cramps, and tingling in the flesh; and from these symptoms he recovered so slowly as to be unable to work for five weeks."

18. J. W. Reid.—Fleming, *l. c.*, p. 158:

"A girl, aged thirteen, drank at noon, on the fifth of January, 1844, about an ounce and three drachms of a mixture of the tincture to the ounce of water. In a few minutes, she complained of burning heat in the mouth and stomach, and tingling with lancinating pains in the extremities. She was then seized with sickness, vomiting, dimness of sight, headache, great confusion of ideas, and almost complete muscular depression. Her face was pale, and the whole surface was covered with clammy sweat. The vomiting continued for an hour and a half, the confusion of ideas dimness of sight, and general

prostration for the next four hours; the burning in the mouth then disappeared, but the tingling endured for some hours longer. Stimulants were freely administered; in the evening, she felt much easier, and, with the exception of weakness, was quite well the next morning."

19. FLEMING.—FLÉM., *l. c.*, 159:

"A child, three years of age, swallowed a piece of bread, soaked in the tincture of Aconite, given to it by an elder sister, who believed it to be something sweet. The tincture, which had been used for toothache, was incautiously left in a drawer in the nursery. In a short time, vomiting and drowsiness, with feebleness of the limbs and staggering came on. A medical man was sent for, and arrived about half an hour after the poison had been taken. He found the face blanched, the surface cold, and its sensibility blunted, the pupils much dilated, the breathing depressed, and the pulse hardly perceptible. The drowsiness and vomiting still continued, the matter vomited being white and frothy. There was complete muscular prostration, the head falling down upon the shoulders when the body was raised.

"Ipecacuanha-wine was given, with the effect of increasing the vomiting, and a purgative emena operated freely; vinegar and water, also administered at intervals. The symptoms slowly improved, and, in six hours, the child fell asleep. It started much, but awoke next morning quite well."

20. J. DEVAY.—*Gazette Méd. de Paris*, Jan., 1844, p. 12. "Bullet. de l'Acad. Roy.," Vol. IX., p. 159–62:

On the twenty-sixth of October, 1843, at half-past eight o'clock, an employée in a drug store, by the name of GRIMAUD, thirty-five years of age, of a lymphatic temperament and remarkably strong constitution, swallowed, by mistake, forty grammes of the alcoholic tincture of Aconite.

"He was soon made aware of his mistake by a feeling of warmth and constriction in his throat, and immediately took, to guard against any ill effects, five centigr. Tart.-stib. in water, almost without effect. Excessive restlessness set in, which left him in no place, and he complained constantly of burning in the throat along the course of the œsophagus. The physician who now saw the patient, found the intellect clear, the senses unimpaired, the tongue whitish, some nausea, no colic. The first action of the poison was manifested particularly in the organs of locomotion, namely in the lower extremities, which were constantly in motion, even while he was seated. When he attempted to walk, his legs knocked together, and gave a peculiar and staggering appearance to his gait."

A second emetic of Ipecac. was administered, which was fol lowed, in seven or eight minutes, by copious vomiting.

"Immediately after taking the emetic, the patient complained of great pain in the throat, excessive restlessness, and fear of death. At eleven o'clock in the evening, he was unable to stand upright, and was taken with convulsions of the following character: Upper and lower extremities drawn in, the fingers, with the closed thumb, closely clenched towards the palm of the hand, the feet in a state of permanent adduction. There was no shaking. The face was at the same time covered with cold clammy sweat, the eyes were turned upwards, so that only the white could be seen; the physiognomy had something fearful about it. Radial and temporal arteries pulseless. This condition lasted about three minutes, whereupon the patient expressed the great anxiety which he felt, and insisted that his last hour had arrived. His consciousness was not at all disturbed, but he was totally blind, so that he could distinguish neither persons nor objects. The symptoms described, alternated with nausea and occasional vomiting. An hour and a half later there was no change; great weariness and anxiety."

Ordered, another emetic, which acted well, but afforded no relief; clysters of Sulphur, Natrum; ice-water for a drink.

"At one o'clock, the sight returned, but the fits were more frequent and more violent than ever; the temperature of the skin sank every moment; the patient experienced a shiver, followed by icy coldness; hippocratic face, head drawn forcibly backwards; during the attacks, the joints cracked; the respiration was rattling. Notwithstanding his painful condition, the patient comprehended everything that was said to him, and did not complain of pain in the abdomen. The palms of the hands and the fore-arms were, from the first convulsion, so destitute of sensibilility that they did not feel deep pricking with a needle."

Ordered, sinapisms over the whole body, with the exception of the belly; internally, Iodide of Potassium, with Iodine in solution.

"Reaction first set in at three o'clock in the morning. The pulsations of the heart were perceptible, and the pulse rose; some vomiting succeeded, and, with the returning warmth, a feeling of general comfort."

Ordered, Spir. Mindereri, in Inf. Menthæ and molasses.

"At four o'clock in the morning, the aspect of things was still better; there was profuse perspiration, the pulse was 125, the breathing was free, and the hands had recovered their sensibility. At six o'clock, the patient slept for half an hour. Upon waking, he complained of a feeling of general exhaustion. Urine scanty and thick. The sleep on the two following days was somewhat disturbed. On the third day, the patient was able to leave his room; the appetite was good, and, with the exception of a change in the expression of

the physiognomy, which had in it something frightful and inane, there were no signs of illness about the patient."

21. SCHNABEL.— *Würtemberger Corresp. Bl.*, Nov. 13, 1850:

"In the case of a boy, seven years of age, there set in, shortly after eating Aconite leaves, great indisposition, nausea, strong congestion to the head, with light delirium. An emetic being immediately administered, the pain in the stomach and intestines ceased, the abdomen was no longer sore, only a drowsy condition lingered behind for several days, and the patient seemed, upon swallowing, to have pain in the mouth and throat. The extremities were cool and moist, the head hot, the pulse frequent and tremulous, the pupils motionless, the urine and fæces suppressed. On the third day, the whole body became œdematous, which condition continued until the tenth day, with mild convulsions. Recovery."

In the case of another boy, œdema of the whole body and convulsions resulted from eating Aconite leaves.

(?) 22. DEGLAND.—*Journal de Chimie Méd.*, III., p. 334.

The four cases of poisoning related by DEGLAND are of rather a doubtful character, because it was only *supposed* that the tincture which had been used was prepared from Aconite root; the general character of the symptoms certainly do not indicate Aconite. The old woman who had herself prepared the medicine, drank two ounces and a half of it at midnight, and died before morning. Three other persons took, each of them, half an ounce, and were seized with burning pain in the breast and stomach, violent colic, soreness of the body, vomiting, and purging. One of them fell into a violent delirium, but recovered after a time. Both the others died after two, and two hours and a half. The autopsy disclosed unmistakeable traces of gastro-enteritis. The poison detected in the stomach had rather a bitter taste. Deafness and prickling do not seem to have existed.

23 and 24. J. C. DE MAN (Specimen Inaugurale Medicum de Aconito. Lugdun. Batavor., 1841, p. 34) gives two cases of poisoning, as the authority for which he refers to a work which is not accessible to us (ROQUES Phut. Med., II., p. 125. Extr. du *Courier Angl.*, 10 Janv., 1822). We give these cases, without attempting to decide whether or not they are identical with either of two already quoted, namely, Nos. 11 and 22:

"Matrona Anglica familiares die quodam Nat. Christ. in ædibus suis excepit: quorum quum quis raphanum (du racfort) petivisset,

famulus, loco in horto a matrona indicato, pro Raphano collegit radices Aconiti. Inter epulas videbatur hospitibus immixtum esse piper Indicum, neque tamen veneni mota suspicio est, donec ipsa matrona ægrotaret orta cardialgia cum vomitu. Medicus arcessitus invenit illam sudore frigido tectam, absque pulsu, mox subsecutis validis convulsionibus. Emetici vanum fuit auxilium. Obiit sexta post esam radicem hora.

"Eodem tempore in Gallia in pago prope urbem, Insulas dictam (vulgo Rijssel) sexagenaria cum filio, genero et vicino quodam biberunt singuli poculum Spiritu vini repletum, in quo Aconiti scissam radicem maceraverant pro radice Ligustici. Unus filius ex iis non interemptus fuit, quippe qui minori copia fuerat usus."

"An English matron, on a certain Christmas day, received her friends at her house. One of the servants went to the garden, for the purpose of looking for some radish in a part of the garden indicated by his mistress, but, instead of the radish, he collected the roots of Aconite. During the repast, the guests thought that some Indian pepper had been mixed with the food, nor was the presence of poison suspected until the hostess herself became sick, being seized with cardialgia and vomiting. A physician being sent for, he found her covered with a cold sweat, and pulseless, which condition was soon followed by violent convulsions. An emetic was administered in vain. She died six hours after eating the root.

"At the same time, in Gaul, in a village near the city called Lisle (commonly Rijssel), a woman, sixty years of age, with her son, son-in-law, and a neighbor, drank, each of them, a small cup filled with spirits of wine, in which they had soaked the dried roots of Aconite for lovage. The son was the only one who was not killed, because he had drunk less of the liquid."

25. *Journal de Chimie Médical*, 3 Sér. Tom. IX., p. 163, 1853:

"A prisoner, in a penitentiary at Bristol, by the name of Emma Forty, took, instead of the tincture of Cinchona, which had been prescribed for her by the Sister of Charity in attendance, a mixture of the tincture of Aconite with Morphine. Death followed almost instantaneously; the dose—which is not given—was evidently very strong. The post-mortem examination showed that her death had been caused by poisoning with Aconite."

26. Ramsay.—*Northern Journal of Medicine*, June, 1844. (Oppenheim, *Zeitschrift*):

"A boy, fourteen years of age, ate the leaves of Aconite instead of parsley. In two hours, a burning in the mouth and stomach set in, soon followed by cramps, and, in seven hours, by death. On making an examination after death, the stomach

was found deeply congested, flecked with dark spots, and a large quantity (a pound) of fluid blood was found within the cranium."

27. Henry M. Gray.—*New-York Journal of Med.*, November, 1848. (Oppenheim, *Journal*) :

"A boy, in good health, fourteen years of age, complaining after a hearty supper of pain in the stomach, a relation gave him as he believed, a tablespoonful of brandy and water. A more careful examination, however, showed the supposed brandy to consist of the tincture of Aconite. Scarcely fifteen minutes had elapsed when the patient complained of a feeling of anxiety, the pupils were dilated and not easily moveable; motion difficult, the head felt dull, and there was nausea, followed by vomiting a little slime. An emetic of the Sulphate of Zinc, which was immediately administered, was followed by copious vomiting; but the patient complained of severe pain in the œsophagus and stomach, and a feeling of general weakness and fatigue, the pulse fell to 45, the extremities were cold, the pupils widely dilated and almost motionless, the sight almost disappeared, and the patient began to toss restlessly about. Under the use of an evacuant clyster, stimulating frictions, warmth applied to the limbs, brandy internally, and diluted drinks, there was, for half an hour, an apparent amelioration of the symptoms; but the collapse soon returned, the respiration became retarded and difficult, the muscles of the neck and back grew rigid, the body was flat, deglutition impossible, death took place suddenly, with full consciousness, two hours after swallowing the poisoned drink."

28. *Würtemburg. Correspondentzbl.*, 1856, p. 35, given by Koch:

"B. R., thirty years of age, a wood-cutter by occupation, perfectly healthy, ate, on the sixth of March, 1855, some greens, which, together with horse-radish, consisted for the most part of Aconite roots. While eating, he complained of the unusual sharpness of the radish, and, immediately afterwards, a feeling as if he could not draw in his tongue, and various hallucinations of sight, which symptoms were soon after followed by vomiting, involuntary stools and passage of urine, a peculiar sensation in the extremities, a feeling of prickling and electric shocks in the whole body, fainting, followed by death."

29. The *Times*, Nov. 10, 1853, contains an account of a case of

poisoning by the root of Aconite, which had been taken by mistake instead of horse-radish. The patient died in an hour; symptoms not given.

30. *Pharmaceutic Journal and Transactions*, 1852, XII., p. 402, relates that a Frenchman, feeling somewhat indisposed, an apothecary in an English shop obtained from one at the head of the establishment, some tincture of Aconite; but, thinking to take it according to the French dosology, took, at once, twenty-five drops. He died, in consequence, in the course of the day. The symptoms are not given.

31. Massey.—*Lancet*, July, 1856.

"A man, forty-four years old, took, apparently with the intention of committing suicide—a considerable quantity of Aconite root, with bread and milk. In a quarter of an hour afterwards, vomiting, trembling, and dizziness set in, followed by loss of sensation. The vomiting continued, there was no diarrhœa, and death followed in two hours and a quarter, before medical assistance could be obtained."

32. The only instance which we find in literature, in which Aconite has been employed for suicide, we find in the *Journal de Chimie Méd.*, 3 Sér., Vol. IX., p. 553, 1853:

"Une jeune fille, d'une vingtaine d'années, nommée P., s'est empoisonnée volontairement avec des feuilles d'Aconit mêlées à une salade. Cette plante, très-commune dans les jardins, trop commune même, puisque l'année dernière on assure qu'un empoisonnement a encore eu lieu par son emploi dans le Canton de Bouchy, constitue un poison des plus violents. Il est malheureux, que la connaissance de ses effets toxiques se répande, et qu'un poison de cette nature se trouve à la portée de trop de personnes.

"Au reste, ceux qui seraient tentés d'imiter cette malheureuse jeune fille, seraient bien guéris, s'ils avaient été témoins de sa mort; elle n'a succombée qu'après deux heures de souffrances tellement intolérables, qu'elle suppliait son père et sa mère de la jeter à l'eau pour les abréger.

"Quelques feuilles d'Aconit ont suffi pour causer cette mort; l'emploi de ces plantes peut donc donner lieu à de très-graves accidents plus ou moins volontaires, et il ne serait pas sans utilité, que sa propagation fût l'objet de l'attention particulière de l'autorité."

"A young girl, twenty years of age, by the name of P., poisoned herself intentionally with the leaves of Aconite mixed with a salad. This plant, frequently met with in our gardens—too often, indeed, since it is stated that a case of poisoning occurred last year from its

use in the Canton of Bouchy—constitutes one of the most violent poisons. It is unfortunate that the knowledge of its poisonous effects are becoming extended, and that a poison of such a character should be within the reach of too many.

"As for the rest, any who felt an inclination to follow the example of this unhappy girl would have been thoroughly cured of it could they have been witnesses of her death. She lingered two hours after taking the poison, and in such intolerable agony that she implored her father and mother to throw her into the water to shorten her sufferings.

"A few leaves were, in this case, sufficient to cause death; serious results, either intentional or involuntary, may arise from the employment of this plant, and it might be of use if the attention of the authorities were directed to its propagation."

b.—Observations and Symptoms after the Administration of Various Kinds of Aconite to the Sick.

The occurrences which have been observed by physicians as the result of moderate doses, or as the toxicological action of larger doses of the various preparations of Aconite upon the sick, must be accepted with great caution, and the peculiarities of the patient in whom the symptoms were noted kept constantly in view. In some of these cases, however, the action of the pure Aconite is so distinctly marked that they may almost be viewed as cases of accidental poisoning. These cases we shall give at full length, while we shall touch lightly upon those instances which are less certain and worthy of attention.

The experience of Marcus Hertz, who saw, in the case of a girl, great dizziness, loss of sense, and raving madness, arise after the use of Aconite, we have already given in the "Historical," p. 27.

M. Sage (Analyse Chimique et Concord. des Trois Regnes. Paris, 1786, Tom. I., p. 246) relates the case of one of his friends, to whom his physician had prescribed as a remedy for wandering gout, ten powders, each containing two grains of the extract of Aconite, a powder to be taken morning and evening:

"During the first three days (eighteenth to twentieth of March, 1775) the patient did not observe any symptoms from the medicine. On the twenty-first, he experienced a feeling of general discomfort, heaviness in the stomach, and inclination to vomit. Nevertheless he took the powder on that and even on the suc-

ceeding day. On the twenty-second, there set in severe pain in all the limbs and violent fever. On the twenty-third, after a fresh dose, excessive vomiting, violent convulsions, vertigo, and sleeplessness. This condition continued three days, whereupon there passed a little dark red urine; severe headache continued, with pain and red spots on the upper part of the body, which after two days became blue.

The case recovered, by the use of acid drinks, in three days.

Otto relates in his travels (Hamburg, 1825, Part. I., p. 377) the following: (Comp. Schweickert, *Ztg. f. Hom. Heilk.*, Vol. VIII., p. 78, and *Aust. Ztschr. f. Hom.*, Vol. I., No. II., p. 111.)

"Giuseppa Vigano di Bussero, a girl, twenty-seven years of age, who had previously enjoyed perfect health, was received into the clinic August 3, 1815, on account of a suspicion of syphilis, contracted in nursing a child. All the functions were perfectly regular, and, with the exception of some soreness of the nipple, no signs of illness were apparent. Ordered, a light diet, and, on the fourth of August, two drachms of the extract of Aconite, with the powder of the same plant, in twelve (probably one hundred and twenty) pills, which were given until the sixth of August, when three drachms, and, on the seventh, half an ounce of the extract were ordered. Now the following symptoms made their appearance: On the eighth of August the patient had but little appetite, the eyes and skin had rather a yellowish tinge. August ninth, the jaundice more clearly marked (an ounce of Aconite extract ordered). August tenth, the yellow color had become darker; the patient complained of nausea, cardialgia, and was obliged to keep her bed (an ounce of the extract of Aconite). August eleventh, in the night, nausea, vomiting, and delirium; the expression changed, the sight extinguished, and it was with difficulty that she could be heard (half an ounce of the extract). On the night of August twelfth the patient grew very restless, left her bed several times, though without being able to stand or to lie down again without assistance. Was fastened down. Great anxiety. In the evening the patient had entirely lost the power of speaking, lay in a *numb* condition, the eyes closed, the facial muscles affected with spasmodic twitchings; inability to close the mouth; slow and difficult respiration; pulse rapid, irregular; head burning hot (venesection, a pound of blood drawn). On the thirteenth, the jaundice seemed to have diminished a little, while the other symptoms were aggravated; belly swollen."

In spite of two bleedings, to the amount of a pound, on the same day, and in spite of Tartar-emetic, in the form of mixtures and clysters, the patient died on the following night.

Pereyra (*Gaz. des Hôpitaux*, March 20th, 1839) treated, at Bordeaux, a man, forty-five years old—taken in the first place with

acute rheumatism, which afterwards became chronic, and for which many remedies had been employed, unsuccessfully, for nine months —with the alcoholic extract of Aconitum-napellus. He commenced with two grains, and increased the dose to five grains morning and evening. The patient had been taking this last dose for ten days, had become much better, and was beginning to walk, when the supply of the extract gave out, and a new quantity was obtained from the contractor. This was administered, not only to the patient referred to, but to several others, and now various symptoms of poisoning were observed in the hospital:

"The patient in question had taken, at five o'clock in the morning, five grains of the newly-obtained extract. A quarter of an hour afterwards, he experienced as usual (these symptoms were also observed when he first took Aconite) a certain trembling and crawling in the legs, accompanied by sticking pains. These symptoms had previously passed off in half an hour, but now the sticking pains increased in violence, and the trembling in the limbs passed into genuine convulsions. In the throat and mouth there was a sharp peppery taste. The patient soon vomited all he had eaten. The patient was unconscious during the convulsion; when he had recovered from it, he was unable to see. Together with this there was a fixed headache, as if a hot iron had been stretched around the head. The convulsions were followed by a cold, profuse perspiration. Pulse irregular and slow. Coffee was ordered as an antidote

"Five hours after the Aconite had been taken, Pereyra found the countenance pale, with an expression of anxiety and restlessness; eyes constantly in motion; patient fretful, tosses himself about, and changes his position; contrary to his habit, he speaks often and rapidly; tongue cold, as in persons sick with the cholera; burning sensation in the throat; vomiting of a slimy substance; orthopnœa, twenty-five respirations to the minute; pulse 54, unequally weak and full, as if the blood-stream did not fill the arteries. Auscultation showed in front a natural respiration, behind, a mucous râle. The heart presented the following remarkable symptoms: the apex struck but once against the parietes of the chest, while three distinct beats were felt at the pulse. Notwithstanding this, the strokes of the left ventricle were synchronous with those of the pulse. The right auricle seemed to be continually in a convulsive condition, for its motions were rapid, irregular, and seemed to bear no relation to the contractions of the ventricle. The limbs gradually began to grow cold. No evacuation from the bowels."

A decoction of Guaco, Liq. Ammonii was ordered, and the external application of the tincture of Cantharides to the præcordial region and back. Recovery took place the next morning, the rheumatism remaining cured.

Another patient in the hospital, also suffering from rheumatism, and who was much relieved by the use of the first extract of Aconite, upon taking the new preparation died after four, hours pain, from paralysis of the circulatory and respiratory system. The following were the principal symptoms:

"Excessive burning pain in the throat, vomiting, cold sweat, feeling of uneasiness, anxious tossing about, fainting, small pulse."

Störck observed in his patients affected with rheumatism, gout, enlargement of glands, and in old syphilitic cases:

"Increased and often considerable perspiration, profuse flow of urine, and repeated purging."

Collin, Störck's contemporary and colleague, observed (Observat. Circa Morb. Acut. et Chron., P. II., p. 130), after the administration of a grain of Aconite a day for ten days:

"A feeling of itching in all the limbs and especially in the legs" (Hahnem., Frag. de Vir. Phos. Med., p. 134).

Greding, who made use of larger doses, and perhaps also of a stronger preparation, invariably observed quite strong symptoms of gastric affection. The preparation which he employed contained, in an ounce of sugar, eight grains of the extract which had been obtained from the freshly expressed juice by a slow process of thickening; the dose was from ten grains three times a day, containing a little over a grain of the extract, to fifty grains of the powder, or five grains of the extract, three times a day.

The symptoms ascribed to the action of Aconite were:

"Nausea, vomiting, profuse perspiration, copious urine, violent purging; hardness of the abdomen, alternating with regular evacuations."

West (Archiv. Général, Aug., 1835) first observed in two cases at Vienna, and afterwards in two cases in his own practice, that, with women whose courses had not appeared for several months, in consequence of suppression from cold, the menstrual function was restored in all its vigor after the use of Aconite.

Thealier (Revue Méd., Feb., 1854) employed the extract of Aconite in several cases of neuralgia and rheumatism. The symptoms which he observed to arise from the use of three to five grains daily, in half-grain doses, were:

"Feeling of oppression in the stomach, and dizziness; eructations and inclination to vomit; numbness in the affected joint"

GABALDA (Bull. de Thér., Aug., 1847) made use of the essence of Aconite—from two to six grammes, ten grammes daily, in sugared water—and says that the most he had ever observed was:

"Profuse perspiration, increased secretion of urine; after large doses, sleeplessness and a peculiar excitation of the nervous system."

GRAVES (*Dublin Journ.*, Feb., 1851) by the use of eight drops of the tincture twice a day, in a case of neuralgia, speedy relief, but there appeared also:

"Disturbance of the sight, small pulse, and a diminution of the warmth of the skin."

FLEMING ("Inquir.," *loc. cit.*, p. 115), in the symptoms which he observed in the sick after the use of Aconite (tincture), carefully separates the physiological from the therapeutic effects, and illustrates this in the chapter devoted to histories of cases. He mentions as such symptoms:

"Sensation of heat in the mouth and stomach (after six drops had been taken three times, p. 124); sickness and vomiting; numbness and prickling in the hands and lips, with weakness of the limbs and giddiness (after eight drops three times, *cf. ib.*). The pulse sank in four days from 82 to 48. Heat in the stomach and slight tingling of the lips (five drops), numbness and prickling in the lips and fingers; peculiar sensation felt in the teeth; sensibility of the fingers much impaired; feeling of general debility (two hours later, a second dose of five drops). The pulse sank from 72 to 50, and was weak. After two doses of five drops, and afterwards two doses of two and a half drops in the same day, the pulse sank again from 72 to 48. Sickness, sensation of warmth over the whole body, succeeded by numbness and prickling in the lips, hands, and feet; general muscular prostration; partial blindness, giddiness, and sensation of weight pressing on the body; tactile power of the fingers much diminished, although the hand is capable of appreciating slight differences of temperature. After four doses of six drops, physiological effects strongly developed; complains of cold feet; has vomited several times."

In a case of chronic rheumatism were observed, with the curative effects, the following physiological symptoms (p. 128):

"July ninth, patient's pulse at 72, eighteen respirations; at nine o'clock, he took five drops of the tincture. At ten o'clock, pulse at 68, respirations fifteen. Five drops given again at twelve o'clock, pulse 60, respirations thirteen, whereupon two drops and a half were given; at two o'clock, pulse irregular; three drops at four o'clock, pulse 56, twelve respirations; prickling over the whole body and deafness numbness of feeling in the fingers.

"The medicine being continued, in doses of five drops, these symptoms of irregularity in the pulse and respiration were aggravated; numbness and tingling of the face and hands entirely gone; to this condition added itself a feeling of great weakness, vertigo, and impossibility of sitting upright."

A patient suffering with lumbago took five drops of the tincture of Aconite every three hours. He experienced:

"Deafness, and a feeling of tension in the face, numbness and tickling in the lips and fingers, and a feeling of enlargement in various parts of the body. The pulse gradually fell from 62 to 36"

Together with the very favorable result which followed from the employment of Aconite for several months, in the case of a patient who had an aneurism of the abdominal aorta, FLEMING observed, as physiological symptoms (p. 134):

"The full and hard pulse at 84 fell, in one single day, after having given three to five drops of Aconite tincture, to 76; in a second, to 42. The respiration fell from eighteen to twelve, and so each time after the repetition of the Aconite, if it were left off for a short time."

DUNCAN gives, in the *Northern Journal of Medicine*, Vol. I., p. 370, an instance of the cumulative action of Aconite. The patient was suffering from violent neuralgia in an amputated stump, and took five drops of the tincture of Aconite, three times a day. After he had used the medicine from the twenty-fifth of February, 1844, till March ninth, to the great relief of his neuralgia, all the symptoms of Aconite had set in, and with such violence that it became necessary to abandon the use of the remedy. The account is given as follows:

"Soon after taking a dose, he experiences warmth in the stomach, with slight difficulty of deglutition, and, in about fifteen minutes, general numbness and pricking, particularly in the stump, where they are first felt; the extremities feel, to use his own expression, as if they were "asleep;" the sensibility of the fingers is blunted; he feels weak and listless, and there are sometimes slight giddiness and dimness of vision. After some minutes a copious perspiration breaks out over the surface, the numbness and tingling continue for about two hours. Two days afterwards he complains of pain and uneasiness of the stomach, with loss of appetite. He is also affected with dull heavy pain in the eyeballs, dimness of vision, and profuse secretion of tears; the pulse is accelerated, the skin hot; he complains of weakness, and has much thirst.

"After omitting the Aconite for five days, the pain and watering of the eyes are now much diminished, their vascularity has not been

increased. Complained for a day or two of black specks floating in the field of vision."

MARTIN LAUZER, "Revue de Thérapeutique," II., p. 68, (1854), takes from the "Revue de Thérap. du Midi," the following case of poisoning:

"A sick man had swallowed a teaspoonful of the tincture of Aconite, but, fearing some danger, took immediately after a seidlitz powder. Fifteen minutes after he complained of nausea and gnawing pain in the stomach. He took at once an emetic. The skin was cold, pulse 100, weak, and irregular, there was a cramp-like extension of the fingers; convulsions, lasting but a short time, shook the whole body; intelligence unimpaired. In spite of the employment of internal and external remedies, the patient complained, three hours after, of burning pains in the throat, stomach, belly, and in the small of the back; the pulse was weak, 120, intermitting; he was taken with convulsions, lasting five minutes, and various spasmodic twitchings in various parts, particularly in the fingers; the pupils were widely dilated, but contracted upon light being held before them. Complete recovery followed."

CHAPTER II

INTENTIONAL PROVINGS AND EXPERIMENTS.

A.—ON MEN.

a.—Trials made by Physicians not of the Homœopathic School.

1. MATTHIOLUS, *l. c.*, p. 690:

"Hujus immanitatem vidimus nos Romæ anno 1524, mense Novembri in Capitolio, CLEMENTIS VII. Pont max. anno primo. Nam cum decrevisset experiri olei cujusdam præstantissimi vires, quod GREGORIUS CARAVITA BONONIENSIS, Chirurgus tunc præceptor meus contra deletaria medicamenta et venenosorum animalium quorumcumque morsum paraverat, jussit Pontifex venenum dari duobus latronibus, quos leges damnaverant, quo suorum facinorum pœnas lucrent, laqueo vitam finire, ut in iis olei hujus experimentum fieret.

"*a.* Horum alterum, qui plurimum Napelli sumserat dulciaribus panibus commixtum, pontificii medici statim oleo inunguendum præbent, qui post tertium diem sæpius oleo perunctus evasit incolumis, quamquam non sine formidabilium symptomatum accessione.

"*b.* Alterum vero, cui longe minus venenati panis exhibuerant, oleo inungi vetant, ut assumpti veneni effectum sævitatemque cernerent. Id quod illis rei exitus facile comprobavit: quandoquidem paucis post horis abiit infelix, iis omnibus incommodis, cruciatibus et symptomatibus correptus, quæ ab epoto Napello provenire scribit AVICENNA.

"*c.* Vidimus id etiam Pragæ anno 1561, mense Decembri, in latrone quodam suspendio damnato, cui Napelli radix a carnifice data est drachmæ pondere rhodosacharo excepta, cæsareis Medicis præsentibus, ut antidoti famosi cujusdam vires explorarentur, an contra Napellum id præstaret, quod antea in altero damnato, qui Arsenici drachmas duas ebibit, efficacissime præstiterat. Lubens itaque voravit ille lethiferum Napelli pharmacum utpote qui non solum sibi conducibilius censebat, veneno in carcere necari, quam laqueo publice in patibulo suspendi, sed quod etiam speraret, se a nobis servari posse. Interim transacto jam sesqui altera hora, cum nihil symptomatis appareret, verebamur omnes, ne fortasse in Bœmia algidæ regionis causa Napellus venenosus nasceretur, aut quod ipsa radix succo destituta, ob editos jam caules, flores et semen, nihil operaretur. Quo factum est, ut alterum illi pharmacum propinatum sit, ex ejusdem Napelli caule, floribus, foliis et semine paratum. At ibidem duabus adhuc horis nobis omnibus permanentibus, misero illi mali prorsus nihil accessit. Reducitur ille ad carceres, abeunt cæteri et mihi soli totum committitur negotium. Hora transacta carceris custos me admonet, illum jam ægrotare. Ego statim adsum audioque, ipsum de universi corporis lassitudine ulcerosa, imbecillitate magna et cordis gravedine conqueri; tunc itaque quamvis satis audacter loqueretur nullo sane mentis incommodo et vividis me intueretur oculis, cum tamen frontem inspicerem frigido sudore madentem et arterias jam fere obdormiscere, antidotum propinari jubeo. Quo epoto illico inversis oculis atque ore in latus distracto, capiteque in scapulas rigente, ingenti admodum animi deliquio correptus est. Itaque totus collapsus decidisset in terram, nisi carceris custode retentus esset. Jubeo interim cum vino irrorari faciem et anterioribus capillis excuti. Quo ingenio statim revixit, emissis interim per sedem excrementis. Post hac jubeo illum jacere super straminibus ibi ad hoc paratis, ut quid inde sequeretur adnimadverterem. Ille vero de frigore conquerens paulo post putrida, biliosa et livida quædam vomitione rejecit, qua se non parum adjutum fatebatur. Interim se ad sinistrum convertit latus, ac si dormire vellet. Prohibeo ne dormiat. Dum hæc aguntur, nullo alio exorto symptomate, tantum obmutuit et obiit simul, livida facta facie ac si laqueo suspensus.

"*d.* Cæterum longe aliter se habuerunt symptomata in altero pariter ad furcam damnato, cui data fuit ejusdem Napelli drachma, ut de lapide, quem Bezoar appellant Arabes, periculum fieret, an hujusce veneni immanitatem expugnare posset. Agebat latro circiter annum XXVII., qui epoto lethali pharmaco, piperis omnino saporem illi inesse dicebat. Hora subinde peracta, cum vomere cœpisset, lapidis illius grana septem ex albo meraco data sunt. Verum ab ebibito variis et acerbissimis symptomatibus exagitatus est. Evomit enim frequenter biliosa, porraceo colore. Quendam quoque veluti globum circa umbilicum se sentire dicebat, qui inde superna petens in supremam et posteram capitis partem frigidam auram quandam diffundebat. Accessit paulo post stupor quidam paralysi haud absimilis qui sinistri lateris brachium et crus occupavit, adeo ut vix summam manum movere potuerit, motu jam in cæteris partibus extincto. Interim nonnulto post tempore hæc morbi vis sinistra corporis parte incolumi relicta in dextram repente se contulit, eandemque simili modo occupavit. Vagum profecto symptoma hoc fuit; nam cum dextrum brachium is attollere potuit, sinistrum non potuit et contra. Tandem utrumque elevavit. Ajebat quoque universas corporis venas frigescere. Non defuerunt vertigines, quas secutæ sunt cerebri commotiones adeo furentes, ut aquæ in caldario bullienti similes esse diceret. Accessit quoque oris et oculorum convulsio atque acutissimus mandibularum dolor. Quare sæpe manibus affectas illas partes perstringebat, veritus ne exciderent. Forinsecus turgentes oculi, livida

facies et nigra labia cernebantur, quin etiam ventris tumor videri poterat perinde ac hominis aqua intercute laborantis. Varia admodum exstitit arteriarum pulsatio, et varia quoque mentis perturbatio, pro symptomatum recurrentium acerbitate. Nam jam prorsus de vita desperare, mox in spem se erigere videbatur, modo rationis compos, modo delirans, nunc ploranti, nunc cantanti similis. Aquam frigidam dari sibi potandam tantopere appetebat, ut ea subito se liberatum iri confideret. Toto hoc tempore se ter excecatum, terque in mortis agone colluctatum affirmabat, lingua tamen perpetuo constitit, nulloque unquam symptomate affecta, siquidem nunquam intumuit, nunquam is balbutire auditus est. Cæterum septima post ebibitum Napellum hora, veneni tandem vi ab antidoto extincta, omnia evanuere symptomata."

2. Claudius Richard, *cf.* Schenk ab Greifenberg, *l. c.:*

"Cum quidam per aliquot dies in carcere detentus solo pane et aqua fuisset usus atque præcedente nocte prorsus incœnatus, drachma pulveris Napelli fuit oblata. Erat corpus præcedente diæta valde præparatum, venæ inanitæ et meatus omnes aperti, ex qua facillime veneni vis ad extrema quoque membra distribui potuit; superveniere accidentia, nempe angustiæ pectoris (1), dolor stomachi (2), oculorum obtenebratio vertiginosa, pulsus immutatus (3). Cum vero infirmus assereret, ni statim subveniretur, se penitus deficere (4), oblata illi quinque grana remedii in pauco vino sunt; continuo alleviatus est. Paulo post non sine angustia tamen evomuit et bene sperabat (5, 6). Nihilominus sciebat, materiam circa stomachum aggregari. Pars posterior capitis et collum dolebant (7), inde cœpit delirare et canebat alte in folio quodam lacero (8). Præteriit delirium, recurruntque alia symptomata, dolores scilicet stomachi, capitis, maxillarum, pectoris, modo unius modo alterius junctura (9). Verum septem horarum spatio omnes doluere (10), venter intumuit quasi hodropicus esset (11). Erant præcordia cum dolore et duritie tensa (12), sentit penctionem in renibus, urina fuit suppressa (13), item est uno brachio et præterea crure resolutus (14). Pulsus sæpe fuit interruptus et febriculosus (15). Vomuit illo die aliquoties, habuitque sedes, sed perpetuo de duritie quadam frigida, ac si lapis quidem in stomacho foret (16), nobis est conquestus. Ultimo vero, de quo adstantes omnes mirati sunt maxime: ophthalmia quædam lippitudinosa illi supervenit, adeo dolorifica et horrida, ut patiens ipse mori potius (1), quam paulo magis cum tali dolore perseverare cuperet. A veneni assumtione per horas quinque ne guttam quidem sumsit, ut eo certius procederet experimentum. Conquievere spatio octo horarum hæc omnia, noctu cum voluptate cœnitavit quieteque dormivit. Mane erat sanissimus, neque membrorum læsio ulla est subsecuta."

"We see its power demonstrated at Rome, in November, 1524, at the Capitol, in the first year of Clement VII., Pont. Max. For, when the Pope decreed that the virtues of a certain famous oil should be tried, which Gregorius Caravita, a surgeon of Bologne, at that time my preceptor, had prepared as an antidote to poisonous drugs and against the bite of any venomous animal, he ordered poison to be given to two robbers whom the laws had condemned to pay the penalty of their crimes by being hung, in order that a trial of this oil might be made upon them.

"*a.* The one who had taken a large quantity of the Napellus, mixed with sweet-bread, and whom the pontifical physicians ordered to be immediately rubbed with oil, escaped safely after three days, being in the meantime anointed all over with oil, though not without the accession of formidable symptoms.

"*b.* But they would not allow the other, who had taken a much smaller quantity of the poisoned bread, to be rubbed with oil, in order that they might witness the effect and severity of the poison. The result of the experiment easily furnished an opportunity of doing so, as the poor man died a few hours after, affected with all those sufferings, torments, and symptoms which AVICENNA tells us arise from drinking Aconite.

"*c.* We meet with a similar case at Prague, in December, 1561. A robber being sentenced to be hung, a drachm of the root of Napellus was administered to him by the hangman, concealed in the conserve of roses, the Cæsarian physicians being present, for the purpose of ascertaining the efficacy of a certain famous antidote, and to determine whether it would avail anything in poisoning from Aconite, as, a short time before, in the case of another person sentenced to death, who had drunk two drachms of Arsenic, it had acted with the greatest good effect. He swallowed the deadly poison willingly, not only because he rather preferred being put to death in the prison by poison to being publicly hung on the gallows, but because he thought he might possibly be saved by us. An hour and a half elapsing without the appearance of any symptoms, we feared that the Napellus had, on account of the cold region, grown up in Bœmia without being poisonous, or that the root itself, being destitute of juice, on account of the stalks, flowers, and seed having appeared, would produce no effect. Therefore a second preparation was administered to him, from the stalks, flowers, and seed of the same Napellus. But, at the expiration of two entire hours, all of us having remained, not a single bad symptom had happened to the unfortunate man. He was therefore conducted back to the prison, the other physicians departed, and the whole affair was left to me. An hour afterwards I was informed by the jailor that the man was now beginning to grow ill. I went to him at once, and found him complaining of sore feeling and weariness all over the body, great weakness and heaviness of the heart, and—although he spoke boldly enough, and without any apparent disturbance of the mind, and regarded me with a clear eye—when I perceived that his forehead was dripping with a cold perspiration, and that the pulsations of the arteries seemed almost imperceptible, I ordered the antidote to be given. Which being drunk at once—his eyes being inverted, and his mouth being drawn one side—he was seized with fainting, and, becoming wholly prostrated, would have fallen to the earth had he not been supported by the keeper. In the meantime, I ordered his face to be sprinkled with wine, and the hair on the front part of his head to be pulled. By means of this treatment he recovered his senses at once, his bowels moving meanwhile. Afterwards I ordered him to lie down upon a litter which had been made ready there for that purpose, in order to observe anything which might follow. Complaining of cold, he threw up, shortly afterwards, a putrid, bilious, livid vomit, by which he expressed himself greatly relieved. In the meanwhile he turned upon his left side, as though he wished to sleep. I forbade his sleeping. While these things occurred, no other symptoms arising, he grew silent and died, his face growing livid as if he had been hung.

"*d.* Far differently happened the symptoms in the case of the other criminal, sentenced for theft, to whom was administered a drachm of the same Napellus, that a trial might be made to determine whether the stone called Bezoar by the Arabians was an antidote to the power of this poison. The thief was about twenty-seven years old. When he had drunk the deadly draught, he declared that he felt a strong taste of pepper. An hour from this time having passed, when he began to vomit, seven grains of the stone were given him in albumen; but, after taking it, he was seized

with various and violent symptoms. He vomited frequently, the matter thrown up being bilious and of a green color. He said that he also felt as if there were a kind of ball about the umbilicus, which, rising from thence to the top and back part of the head, diffused, as it were, a cold *aura*. In a little while, numbness, not unlike that of paralysis, set in, which invaded the arm and leg of the left side, so that he could scarcely move the ends of his fingers, the power of movement now being extinct in the other parts. In a little time after, this part of the disease, leaving the left part of the body safe, transferred itself to the right side, and invested it in the same way. This symptom, indeed, was variable; for, when he was able to raise his right arm he could not raise the left, and the contrary. Finally, he raised each. He observed that his veins were growing cold all over his body. There was also vertigo, which was followed by cerebral disturbances of so violent a character that one might compare them to water boiling in a cauldron. To these symptoms were added convulsive twitchings of the eyes and mouth, and a very acute pain in the jaws. Frequently he compressed the affected parts with his hands, fearing that they would fall out. The eyes, externally, seemed turgid, the face livid, and the lips black, and there was also visible a tumor of the abdomen, as in the case of a man suffering with dropsy. At one time there was a variable pulsation of the arteries, also a variable agitation of the mind, arising according to the severity of the recurring symptoms. Now he seemed wholly to despair of life, and now to be filled with hope; at one moment his reason seemed unimpaired, at another he was delirious; now like one bewailing, now like one singing. He earnestly entreated that he might have cold water to drink, feeling that this would relieve him at once. During the whole of this time he had three evacuations from his bowels, and three times he declared that he was struggling in the agony of death; yet his tongue remained as usual, and was in no wise affected, neither was it swollen at any time, nor was he heard to stammer. In seven hours after the Napellus had been drunk, the power of the poison being extinguished by the antidote, all the symptoms vanished."

2. Claudius Richard, *cf.* Schenk Ab Greifenberg, *loc cit.:*

"When a certain man had been confined in prison for several days, had eaten nothing but bread and water, and had gone entirely without supper the preceding night, a drachm of the powder of Napellus was administered to him. The body was, from the preceding diet, in an excellent condition—all the veins being empty, and the avenues of the whole system open, so that the power of the poison could easily find its way to the remotest parts of the body. The following symptoms supervened: Constriction of the chest (1).* pain in the stomach (2), giddy obscuration of the sight, pulse unchanged (3). When the sick man declared that, unless he received assistance, he should sink entirely, five grains of the remedy were given him in a little wine, and he was at once relieved. A little while after, he vomited, not without difficulty, and became more hopeful (5, 6). Nevertheless he was aware that the material was collecting about his stomach. The back part of his neck and head troubled him (7), then he began to rave and sing in a high key upon a torn leaf (8). The delirium passed away, and other symptoms recurred: pains in the stomach, head, jaws, breast, and now in one, and now in another joint (9). But, in seven hours, the whole system was in pain (10), the belly being swollen, as if there were dropsy (11). The præcordial region was tense with

* The figures after the symptoms correspond to the number of the symptom in Hahnemann's "Frag. de Virib. Med. Pos.," pp. 10 and 11.

pain and hardness (12), he felt a pricking in the kidneys, the urine was suppressed (13), at the same time he was palsied in one arm and in the leg besides (14). The pulse was often interrupted, and febrile (15). He vomited several times on that day, and had evacuations from the bowels, but he complained constantly of a certain cold hardness, as though there were a stone in the stomach (16). But, finally, at which all those who stood about wondered greatly, there supervened a kind of lippitudinous ophthalmia, so horrible and painful that the patient declared he would rather die (1) than suffer any longer such torture. In order that the experiment might proceed with more certainty, he did not take a drop of anything for five hours after the poison had been administered. In eight hours all these symptoms had disappeared, he supped with enjoyment, and slept quietly. In the morning he was perfectly sound, nor did any lesion of the members follow."

Baptist Van Helmont's five experiments, we may find already mentioned, p. 17, and critically considered.

Siegel.—"Nova Acta Phys. Med. A. C. L. C.," Tom. VI., p. 129.

A surgeon took three or four ounces of a medicated wine ordered by him, by the use of which a woman had suddenly been killed, in order to show its harmlessness, and suffered as follows:

"Vino medicato illo vix hausto de præcordiorum anxietate, spasmis nervorum tremore membrorum valde conquestum esse, et quum de veneni in vino præsentia non amplius dubitavit, ut it quam ocyssime involveretur et excerneretur, multum butyri in aqua calida soluti nec non olei olivarum ingurgitasse, nihilominus tamen licet vehementissimi vomitus cum sedibus quam plurimis insecuti sensim debilatatum hora circa quinta ad sextam absque convulsionum manifestatione mortem obiisse."

"The medicated wine being drunk, he complained of anxiety in the præcordia, spasms of the nerves, and trembling of the limbs, and, when there was no longer any doubt that the wine contained poison, in order that it might be covered and voided, he swallowed a large quantity of butter dissolved in warm water, and also olive oil, and, although vehement vomitings with frequent purging seized him as his strength gradually failed him, death took place within five or six hours after the appearance of the convulsions."

The post-mortem examination showed gastro-enteritis. How far this poisoning may be regarded as due to Aconite, we have expressed our opinion in another place.

Siegel made with the suspected species used, which was found, and pretended to be recognized as Aconite root, the following trial on himself:

"Hora quarta pomeridiana de fibris radicum tantillum dentibus contrivi et linguæ caute admisi; linguæ impressit saporem primo non admodum nauseosum, parum austerum, postmodum vero urentem et vellicantem."

"At four o'clock in the afternoon, I tore off never so little of the fibres, of the root with my teeth, and placed it cautiously on my tongue; at first it produced a taste not only nauseous, but acrid, and afterwards burning and biting."

In spite of rinsing with water and milk, and rubbing with oil:

"Ardorem ac vellicationem in ea parte linguæ palatique, quam radix attigerat, ne minimum quidem diminutum deprehendi.—Ex affecto linguæ palatique parte latex frigidiusculus continue stillaverat, quem tantum non semper ejicere consuetum duxi.—Tandem in levem talem molestiam non amplius animadvertens nec mali quid metuens, hora sexta laborem quendam vix agressus horrore ingenti per totum corpus ac vertigine me correptum sensi. Degustationi radicis, cum cautissima fuerit, causam adscribere plane dubitavi; ad cœnam vero vocatus, cum omnia esculenta vinumque adversa mihi esse deprehenderem, conatus vomendi sentirem, doctoris Conspruchii consilio usus sum."

"I did not find the burning and nipping in that part of the tongue and palate with which the root had come in contact, in the least diminished. A fluid, slightly cold, distilled continually from the affected part of the tongue and palate, which I thought more than they were usually accustomed to secrete. Paying no attention, however, to such a trivial affection, and apprehending no evil, at six o'clock, seized with great fear, I experienced a feeling of sickness all over, and felt myself affected with vertigo. I hesitated in ascribing entirely to my having tasted the root, which I had done with great caution, the cause of these sensations; but, at supper, when I found that all the food and wine I took disagreed with me, and there were attempts to vomit, I availed myself of the advice of Dr. Conspruchius."

The prescription of this physician was plenty of milk and lukewarm water:

"Horripilationes creberrimæ, anxietas præcordiorum, vertigo, magna virium prostratio, nisus frequentes ad alvum et vesicam tenesmodei subsecuti continuarunt."

"Frequent horripilatio, anxiety in the præcordial region, vertigo, great prostration of strength, frequent attempts at defecation and passing the water continued, followed by tenesmus."

Emetic of Ipecac. ordered, then Cremor-tartari:

"Vomitus multam quidem ingurgitatæ aquæ lactisque copiam exturbavit, magna tamen capitis turbulentia levesque membrorum et oculorum involuntariæ distorsiones tandemque lipothymia insequebatur; cutis erat sicca nec sudor prima nocte, quam totam insomnem transigebam, fervente largo theæ infuso provocari poterat. Insequente die lipothymia torsionibusque membrorum cessantibus anxietatem præcordiorum et intumescentiam abdominis cum appetitus magna prostratione adhuc sensi."

"Vomiting brought away a large quantity of water and milk, which had been swallowed, yet was succeeded by a great confusion of the head, light, involuntary distortions of the eyes and limbs, and finally by lipothymia; the skin was dry, nor could perspiration be excited the first night, which I passed without sleep, by copious draughts of boiling tea. The lipothymia and twistings of the limbs ceasing, I still felt the anxiety in the præcordia, together with swelling of the abdomen and great loss of appetite."

Rapid recovery after the use of an aromatic drink, though horripilationes, vertigo, and lipothymia, reappeared several times.

Anton Störck, *loc. cit.*, p. 302:

"I bruised the leaves and stalk of this plant to a powder, and laying a little of it upon the tongue, there arose a burning which lasted a long time;

at the same time I felt in the tongue a sticking, running pain, but which continued only an instant; no bad consequences resulted, for, although I had held the powder on my tongue for two minutes, there was neither inflammation nor redness. While the burning on the tongue continued, there was a profuse secretion of saliva; with the exception of these symptoms no inconvenience was felt. I expressed the juice, and burned it down by a slow fire to an extract. The application of this upon the tongue produced only a slight tickling. I introduced a grain of this extract beneath the lower lid of the right eye, but the eye was no more affected by it than it would have been by any foreign body. After it had remained in the eye two minutes, there was profuse lachrymation, but I did not particularly remark any burning sensation.

"From a powder, which was composed of two drachms of the sugar and two grains of the extract, I took in the morning, fasting, six grains. I took particular care to observe any symptoms which might occur in my body. I did not, however, experience the slightest change, not the slightest feeling of discomfort. On the second day, I took eight grains, but without any effect. There was the same result on the third day, when I took ten grains. On the morning of the fourth day, I took twenty grains of this powder. None of the functions of the body were in the least disturbed, only I noticed that the surface of the limbs and the whole body perspired more and were moister than on the whole day. The fifth day, I took the same dose, and with the same effect as on the fourth day. On the sixth and seventh day, a repetition of the same. The eighth day, I did not take the powder, and the light perspiration which had existed the preceding day did not make its appearance. The ninth day, I again swallowed twenty grains, and the perspiration set in again. On the eleventh, twelfth, and thirteenth days, there was no alteration. On the fourteenth day, I took none, and was the same as I had been on the eighth and ninth days."

M. De Berghes.—"Annal. de Pharmacie," p. 122:

"I dissolved a grain of the spirituous watery extract in two drachms of water, and introduced a drop of it in my eye, in order to ascertain whether it acted like Belladonna and other narcotics and dilated the pupil. During a period of two hours, however, no alteration took place in the pupil; I experienced simply a little smarting in the eye, which became slightly inflamed, which is to be ascribed to the acridity which belongs to all the ranunculaceæ.

Geiger and Hesse.—"Annal. de Pharm.," p. 66 (74):

"An apothecary, dwelling in this place, swallowed a little of the extract, prepared with alcohol according to the formula of Geiger, from which the chlorophyl had been driven by evaporation and had remained on the walls of the vessel, and therefore possessed no sharp taste. Soon an unpleasant feeling set in, with dizziness and nausea, which symptoms disappeared only after several hours."

J. Schneller.—"Pharmakologische Studien," p. 399. *Wiener Ztsch.*, March 11, 1846:

"From a dose of four and one-half grains (Extr. herb. Aconiti alcoh. aquos. Pharm. Bor.), I observed nothing further than a griping and increased warmth in the belly.

"On taking from five to nine and one-half grains, I was surprised by a pressing headache in the forehead and occiput, particularly towards mid-

day; to these were joined increased warmth of the whole body, palpitation of the heart, with a certain mental restlessness which would not allow me to dwell long upon any subject. Besides this, after a dose of seven and a half grains, there was some tickling and burning in the throat, diminution of the appetite, with a yellow coating on the tongue.

"After a dose of nine grains, the conjunctiva of both eyes, particularly at the inner angle, became strongly injected.

"The four last strong doses produced, together with the symptoms of the abdomen already mentioned, and the headache, but in a higher degree, the following additional changes in the general condition. Dryness of the throat; light stitches in the side, in the neighborhood of the breast, and particularly in the region of the heart and in the left hypochondrium. In addition to this I observed—on taking a dose of twenty-four and a half grains—in the region of the back and loins, along the sacro-lumbalis and longissimus-dorsi muscles on both sides of the spine, a drawing pain, increased by pressure, and so violent that every motion of the trunk was rendered difficult; from this seat the pain transferred itself to the antagonistic muscles, the recti-abdominis, which were stretched like a board. After eight hours, tension of the abdomen only was present. From the last dose of twenty-six and a half grains, taken three days later, followed wandering stitches in the left hypochondrium and in the back and head, stretching in the region of the loins, which also continued three days after, whereupon succeeded increased warmth and redness of the face.

"There were several symptoms farther which appeared strange to me: a feeling of great distraction; difficulty of remembering, with exalted intellectual disposition; spirits heightened; sleep tranquil. Comparing all these symptoms, we find that, together with the excitory action upon the circulatory system, the indications of congestion of the head and the slight affection of the throat, the soreness of the muscles and their sheaths was by far the most striking symptom. I am inclined to believe that the painful sensations described above must be referred to the muscles and serofibrous investments, or more particularly to their nerves of sensation, which also agrees with the old idea of the peculiar relation of Aconite to the fibrous structures. Nor is the marked condition of intellectual activity to be overlooked, which I cannot attempt to explain."

J. SCHNELLER and FLECHNER.—"Beiträge zur Physiologie der Artzneiwirkungen," *Vienna Ztsch.*, IV., May, 1847, p. 106.

In April, 1845, Messrs. FLECHNER, FRANKEL, and SCHNELLER proved the extract from the fresh plant of Aconite. They commenced with a dose of one-half grain, and commonly took as much more every succeeding day, the largest dose being twenty-six and one-half grains.

"It was noticed by the observers, after the first doses of from one-half to five grains, that violent eructations set in, diminution of the appetite, and scanty evacuations; later, dull pain in the head, particularly about the forehead, continuing several hours.

"The subsequent doses of from five and a half to ten grains caused the following symptoms: Pressure in the gastric region, slight gripings about the navel, nausea, white coat on the tongue, diminished appetite, dryness and scraping sensation in the throat. The feeling of heaviness in the head, particularly in the frontal region, became more marked. To these symp-

toms were added, exhaustion of the limbs, increased warmth of the whole body, elevation of spirits, with a certain mental restlessness and disturbed sleep, acceleration of the pulse, and throbbing of the heart. By the larger doses, of from twenty to twenty-six grains, the symptoms of the abdomen were increased; there arose pain in the belly, considerable nausea, rolling of wind and rumbling in the intestines; the pain in the forehead continued and increased; the sleep was unquiet and troubled with dreams. With these symptoms were mingled fleeting stitches in the region of the heart.

"In the case of one person, the extract of Aconite produced no effect, except swelling of the tonsils and scanty evacuations. By another prover were remarked, in addition to those given above, the following symptoms: Nine hours after taking twenty-four and a half grains, there arose a drawing pain in the back, and particularly in the lumbar region, so that every motion of the trunk—standing, stretching, bowing, and sitting—was attended with difficulty. These localities were also painful upon pressure; this pain disappeared in five hours, but thereupon the abdominal muscles were affected in the same way, and became firmly contracted and stiffened. This condition remained a few hours, leaving behind simply some tension in the abdomen. After a dose of twenty-six and a half grains, which was taken two days later, stitches made their appearance in the right hypochondrium, in the head and back, and, nine hours after, tension in the lumbar region. The weakness of memory experienced by the observer, apparently depends upon the same cause as the mental inquietude mentioned above, which would not suffer the mind to dwell long upon any subject.

"Judging from the generally slight effects of the extract of Aconite, it seems:

"*a.* When taken into the blood, almost invariably to affect the digestive organs, through the acrid principles contained in it.

"*b.* That Aconite produces a condition of congestion in the brain, and an increased action of the circulatory system, which is demonstrated by the accelerated pulse, the throbbing of the heart, the increased warmth, &c.

"*c.* The isolated affections which arose—of the muscles of the back and their sheaths, namely the longissimus-dorsi and the sacro-lumbalis, as well as the corresponding affection of the abdominal muscles—indicate the existence of a relation between Aconite and the sero-fibrous system."

D. Schroff.—*Prague Vierteljschft.*, p. 155.

Two candidates for a medical degree made provings with the following preparations of the various kinds of Aconite, taking it in doses of 0.1 to 0.2 grammes:

"Extr. alc. rad. Aconit-neomont., before blossoming.

"Extr. alc. rad. of the young and old Ac.-neomont., before blossoming.

"Extr. from juice of Acon.-neomont., before and after blossoming.

"Extr. alc. from the plant of Acon.-neomont. cultivated in the garden, before and after blossoming.

"Extr. alc. Acon.-cammari, from the root and plant, before and after blossoming.

"Extr. alc. from the root of Acon.-napell. hung., and from the juice of the plant.

"Extr. alc. from root of Acon.-variegat. hung.

"Extr. alc. from root of Acon.-paniculat., after flowering.

"Extr. alc. from the seeds of Acon.-napell. hung.

"Tincture of the seeds of Aconite-napell. hung."

"II. Dworzak experienced, on taking a watery or alcoholic extract of Aconite in the mouth without using a wafer, at first a peculiar sharp taste, which was followed, after swallowing the Aconite, by a violent sticking pain along the course of the tract of the mucous membrane, from the lips to the stomach. Close after this symptom followed violent eructations and rumbling in the abdomen, the head and face grew very warm, the pulse frequent, the tongue and mucous membrane of the mouth were red, and on the latter appeared small yellowish-white vesicles, surrounded by an intensely red areola; salivation set in, the eructations grew more violent, nausea arose, inclination to vomit, the pulse fell, and vomiting followed. The contents of the stomach, with the extract, being expelled, the normal state returned.

"When the extract was taken in wafer, and came in contact with neither the mouth nor mucous membrane, Dworzak observed, after taking, for example, 0.1 grammes of the alcoholic extract of the root of Acon.-neomont., the following:

"Rumbling in the belly and eructations, followed by a feeling of tightness in the head; there arose, in the tract of the nervus trigeminus, a tensive, drawing feeling, which soon gave place to a shooting, wandering pain, at first interrupted, but becoming constant. The pulse began to sink, became irregular, small, and weak; the fullness of the head increased; there set in a feeling of exhaustion, fatigue, and sleepiness, and dull pain in the inside of the head. The pupils, which at first possessed an unusual amount of motion, and constantly varied in size, were now permanently dilated; the sight, therefore, became impaired in such a manner that a brightly illuminated object could not be looked at without blinking, and so that near as well as remote objects gradually disappeared. In the meantime, some forty minutes after taking it, a peculiar creeping sensation began on the tongue, which felt, at first, exactly like the feeling produced by eating peppermint; it extended to the lips, to the back part of the mouth, to the gullet, then went to the ends of the fingers and toes, and to the face, and, advancing, spread over the whole body. At the same time, there was an increased secretion of saliva, and the skin was cold, dry, and rash-like. The creeping sensation increased all the while, giving rise to the most curious subjective sensations of contortion of the countenance; twisting of the extremities, and tying up (*zusammenschnürung*) of the abdomen. This sensation makes the experimenter very restless, and impels him to constant motion. In a uniform temperature, this feeling is not so intense, but, if he passes from a colder to a warmer medium, or *vice versa*, it is at once increased, or returns if it has disappeared. The headache and the tightness of the head gradually abate (in two hours after taking the Aconite), but a feeling of excessive exhaustion and weariness, uneasiness and anxiety seizes him; he is often obliged to yawn; the respiration is slower and more difficult; the neck and breast feel as if they were pressed together; the pulse is all the while irregular, and sinks to half the normal standard, is intermittent, and, at times, is a pulsus dicrotus; the fatigue becomes so great that the experimenter cannot stand on his feet, but is forced to remain in a recumbent position; the feeling of anxiety increases, and with it apathy and indifference to the whole world; the strokes of the heart and pulse, for several seconds, are entirely absent; the breathing is a mere catching after air; the skin is continually dry and ice-cold; the taste and feeling diminished in those spots where the creeping sensation had ceased, there set in a feeling of numbness, as in a finger bound round by a string; twitchings of the tendons; involuntary stretching of the limbs. At the same time, there exists nausea, inclination to vomit, and retching,

until, finally, (after two hours) the patient vomits several times. This produces a very favorable change: the pulse and respiration are more regular and frequent; the unnatural anxiety and depression disappear; the whole body becomes warmer; the crawling ceases entirely, but, in its place, there remains a certain insensibility of the skin, a feeling as if the skin were asleep. The head is no longer so painful and full, but much more confused and empty, as in sleepiness; the exhaustion is so great that, upon standing, there is such a giddiness, glittering before the eyes, roaring in the ears, pain in the head and face, and such weakness of the muscles that, in order to escape falling, the experimenter is obliged to sit down again at once. Almost the whole night is passed in this condition, and without sleep (with the exception of about two hours sleep about four o'clock in the morning). The next day, the prover lay, from morning till evening, as if half asleep. The memory and power of attention were very much disturbed, the pupils were dilated, the pulse now frequent, now retarded; after mental and bodily activity, there set in a feeling of tightness of the head, with pain in the head and face; the tongue, in the morning, was coated, and there was a clammy taste; the skin, all over the body, was cold and dry; the flow of urine markedly increased."

"In the case of HEINRICH, the other experimenter, though his provings were made with the same dose, there were several points of difference:

The pulse was, at first, frequent, and twenty minutes later there came eructations, scraping in the throat, tightness of the head, the pupils were dilated, the sight was greatly disturbed, the head full and heavy. When forty minutes had elapsed, there commenced a tickling, at first on the tongue and lips, then extending to the face, and thence over the whole body. An itching of the skin was observed at the same time with the tickling, and, in some cases, distortion of the face; the skin was dry. An hour after, pain in the face and head set in. The headache was aggravated by bending the body forward. By and by were added these symptoms: Ringing in the ears and giddiness; the pulse grew slower (falling within two hours from 62 to 51), and was so small, weak, and intermitting that it could hardly be counted. The respiration was impeded, and with this condition there was a feeling as if the thorax were cramped up, and the secretion of saliva was increased. On returning home, there set in great weariness, and after going about for some time, pain in the elbows, knees, and hip-joints. This pain was lessened by pressure, but was not, at any time, wholly relieved. In about four hours, the pain in the head and face became very violent, and spread over the whole body; the tickling increased; an inexplicable feeling of unrest took possession of H., so that he paced the chamber all night as if demented. The skin was now dry and cold; the breathing laborious, but more frequent; the pulse much slower (40 in a minute). In one instance, there were also observed violent eructations, inclination to vomit, cramp-like pressing together of the stomach, and contraction of the abdominal muscles; there was, however, no vomiting. On moving about, there set in dizziness, roaring in the ears, and great sensitiveness to the light. The cessation of the tickling was followed by a peeling off of the epidermis on the face. Towards morning, H., being very much fatigued, lay down; when he awoke, he was very warm and in a perspiration. Several times after taking the extract, but especially in this case, H. had erections and pollutions, without lascivious dreams. On the succeeding day, H. was, in the morning, quite well, but in the college, where he was obliged to stand, he was very tired and experienced fresh pains in the joints. In one instance, little papules and vesicles, filled with serous fluid, which were very painful, formed upon the skin of the lower limbs.

The memory was further weakened, and the sense of touch so much blunted that he was unable to recognize very small objects by feeling them."

The group of symptoms just given in detail, made its appearance with great perseverance in each of the three provings of the root of Aconite-neomontanum, the dose being 0.1 gramme, and placed the prover in so critical a situation that he feared to increase the dose.

De Soist (Diss. de Aconito, Berlin, 1854), instituted a series of experiments with Aconite, in order to ascertain its effect upon the secretion of urine. A young man, in good health, whose urine, some time before the trial, had been subjected to frequent analyses, took—from the 10th to the 16th of April, beginning with one-half grain at a dose, and increasing it to three and a quarter grains—altogether thirteen grains of the extract of Aconite. The urine, at the close of each night and day, was analyzed, and a comparison with the former analyses showed that, by the use of Aconite, the watery portion was much increased, while the solid constituents were very materially diminished. He also ascertained (p. 47) that the freshly-drawn blood of an animal, mixed with the tincture of Aconite, or with the Aconite extract which had been made thin, formed a dark-brown coagulum. The accounts which he gives of the trials on animals afford nothing that is not already known, and of the symptoms which the prover observed on himself, there were repeated itchings on the nose, sticking and pricking in the face and fingers, redness of the face, and slight confusion of the head.

The experiments of Eulenberg (Hygea, XXII., p. 332) constitute the passage from the provings of physicians not of the homœopathic school to those of the homœopathic physicians; they were instituted with reference to Schultz-Schultzenstein theory of disintegration, and demonstrate the changes which take place in the blood and urine after the use of Aconite.

The examinations of the blood, as well as those of the urine, were instituted upon persons who were relatively healthy, or who suffered with diseases of so light a character that they could have no influence upon the composition of the blood, nor upon the constituents of the urine. From time to time, small bleedings were made, and the analyses made therefrom compared with the analyses of the blood which had been drawn previous to the use

of Aconite. The same method was pursued in the examination of the urine. The dose which was taken of the tincture of Aconite seems to have been a considerable one in all the experiments.

In relation to the alterations in the blood, EULENBERG now found that Aconite promoted the process of destruction in it. Upon coagulation, the melanic color of the coagulum was strongly marked, and analysis showed a diminution of the red corpuscles, albumen, and fibrin. Aconite also promotes the disintegration of the blood. As regarded the contents of the urine, EULENBERG felt satisfied that after the use of Aconite, the urea and phosphatic salts were increased in a decided ratio, while the amount of uric acid varied. Aconite, therefore, also promotes disintegration.

b.—Experiments Instituted by Homœopathic Physicians.

We find the results, or rather the symptoms of all the provings of Aconite instituted by physicians not of the homœopathic school contained in the article on Aconite in NOACK and TRINKS' "Hand-book," Vol. I. and II. In order, however, to examine this collection critically—which owes its origin in part to excellent provings made afterwards, but in part is mixed with therapeutic symptoms and with unauthenticated observations of the older physicians—it is necessary to follow throughout, the rise of this collection from its very beginning, and to trace out, in the original, the various communications.

As we have before stated, HAHNEMANN was the first after STÖRCK who undertook a physiological proving of Aconite. We find his first communication on the subject in the "Frag. de Virib. Med. Positivis," p. 1–14, and in it (p. 1–9) the symptoms which HAHNEMANN observed in himself and others, after taking the juice of the whole plant, thickened in the sun. Concerning the size of the dose, its frequency, the age, habit, and condition of health of the provers, no information is given. The arrangement of the 147 symptoms is altogether different from that afterwards adopted by HAHNEMANN, and if GERSTEL (*Oestrich. Ztsch. f. Homöop.*, I., 2, p. 9) means that the Aconite symptoms seem to have been arranged in the "Frag. de Vir. Med. Pos." as if HAHNEMANN had given first the active and then the passive symptoms

(HAHNEMANN's first and second order), there are no grounds for accepting such an interpretation; on the contrary, both kinds alternate with each other from beginning to end. Neither has HAHNEMANN arranged the symptoms in accordance with the time in which they appeared; for while, for example, the fourth symptom, on page first, appeared after three hours, he says that the third, fourth, fifth, and seventeenth symptoms, on the second page, appeared during the first hour; then follow symptoms 10 and 11, of page second, and 1 and 2 of the third page, which appeared from the fourth to the ninth hour, while symptoms 11 and 12, given on the third page, were observed in the second hour. In short, it is impossible to recognize in the arrangement of the symptoms of the "Frag. de Vir. Med. Posit." anything like a regular order.

On page 9–14 are added to these symptoms, "Observata aliorum;" here the arrangement of the symptoms corresponds to the time in which they appeared, as is shown by a comparison with the original sources. The authors quoted are, RICHARD, BACON, RŒDDER, MORÆUS, STÖRCK, and GMELIN.

In the year 1811, six years after the "Fragmenta," appeared the first edition of the "Materia Medica Pura." Aconite is treated of in the first volume, p. 216. We find at first 206 symptoms which HAHNEMANN had observed in himself and others. To the 147 symptoms of the "Fragmenta," there are added 59 new ones; but here, also, there is no statement of the size or repetition of the dose, and condition of the prover. In addition to these 206 symptoms, there follow (p. 229) 108 symptoms from the observations of others, both from the writers named above and GREDING's.

In the arrangement of both these series of symptoms, HAHNEMANN observed the order here first planned by him, and which afterwards became a standard one, and which he speaks of on the eighth page of the first edition of the "Mat. Med. Pur." In many symptoms the hours in which they appeared are given in brackets, while all the more prominent symptoms, and those which were observed by several provers, are designated by italics.

Nineteen years after, in 1830, we find, in the third edition of the "Materia Medica," the number of symptoms grown to 511, 207 more than the first edition contained. This addition is made up as well from the symptoms observed, and so well increased

by HAHNEMANN himself, as well as from the labors of five provers in particular, who made their experiments under HAHNEMANN'S direction—namely, AHNER, FR. HAHNEMANN, HORNBURG, RÜCKERT the elder, and WAHLE, and also to the employment of the various experiences which had been communicated by other authors, whose names have been already given, and GROSS, HELMONT, PET. DE ALBANO, and DÜRR. In the arrangement of the order of the symptoms, the original scheme is followed out, but there is no separation, as at first, of the symptoms remarked by different observers; all the symptoms observed by HAHNEMANN and his immediate co-workers, and those given by the old physicians, are included under this arrangement, and after each symptom is given the time at which it appeared and the name of the observers.

There can be no doubt that in this order, and in mixing together the symptoms of such a variety of observers and sources, a great and decidedly retrograde movement was made by HAHNEMANN. He accords in this arrangement, to his own observations and to the aphoristic observations of an ALBANO, MORÆUS, and HELMONT, the same degree of credibility and truth; and if, because he considers them correct and valuable, he demands that we should accept the accounts of the latter with the same confidence that he asks of us in the observations made by himself, he asks of us something with which no one not accustomed to swear blindly, *in verba magestri*, will be willing to comply.

Turn we now, as we propose doing immediately, to the original sources whence HAHNEMANN borrowed these "observations of others," we find them often so vitiated and obscure, and so little corresponding to the homœopathic precautions, that we can explain HAHNEMANN'S adoption of them only upon the supposition that he made use of them simply because they suited his purpose (*sit venia verbo*): that is, because they were not only not contradictory to his own observations, but here and there seemed to confirm them.

If we compare now these three articles referred to of HAHNEMANN, on the symptoms of Aconite, namely that in the "Frag. de Virib. Med. Pos." and those in the first and third editions of the "Mat. Med. Pura," it is clearly evident that HAHNEMANN had already decided in the "Fragmenta" the principal sphere of action of Aconite in characteristic groups of symptoms, since we find some

symptoms, the appearance and violence of which prove conclusively that HAHNEMANN must sometimes have administered to himself and others right strong doses, since only after such, as the new physiological provings of SCHROFF demonstrate, could these symptoms have occurred. The symptoms added at a later date, are simply confirmatory of HAHNEMANN's first observations, and contain nothing materially new. The kernel was there, and increased in the development of its strength only through confirmatory experiments; but, unfortunately, there was added to it, here and there, a husk of unimportant casualties, and sometimes a useless shell of uncertain symptoms of disease.

As it is impossible for us to examine the symptoms of Aconite found by HAHNEMANN and his immediate fellow-observers, in the sense of the new homœopathic formulæ for such provings, that is, to estimate them according to the time of their appearance, the size of the dose, and the individual peculiarities of the prover,—for neither do we gain anything if we adopt the method tried by GERSTEL (*Oestr. Ztsch., f.*, II., I., 2, p. 15) who grouped the symptoms according to their observers,—we are forced to let it remain as a perfect matter of fact; nor, indeed, have we any cause for doubting their correctness, particularly since they have since received, by accurate provings, a brilliant confirmation.

On the other hand, it is our duty to prove with what authority the observations of other physicians were accorded a place among HAHNEMANN's symptoms of Aconite in the pure Materia Medica.

1. The symptoms marked "RICHARD" relate to a trial which this writer made upon a criminal, in order to ascertain the efficacy as an antidote, of Bezoar caprarum indicarum. (*Cf.* p. 58.)

The following symptoms are taken therefrom:

"Symp. 11. Dizzy obscuration of vision, with unaltered pulse.
" 67. Pain in the occiput and neck.
" 96. Ophthalmia of a lippitudinous character, and so terrible and painful that the patient rather wishes himself dead.
" 165. Vomiting, with anxiety.
" 182. Though there was vomiting several times repeated, and frequent evacuations, he complained continually of a feeling as if an ice-cold stone lay in his stomach.
" 193. Under the ribs the epigastrium is affected with a tensive, painful swelling.
" 194. Swollen, distended abdomen, as if there were dropsy.
" 223. Suppression of urine, with sticking pain in the region of the kidneys.

"Symp. 254. Dyspnœa.
" 400. After the disappearance of the wandering of the mind, pain in the stomach, head, jaws, and heart, now in one and now in another joint.
" 401. All the joints are painful.
" 451. Febrile and frequently intermitting pulse.
" 511. After vomiting becomes more hopeful.
" 537 and 538. Insane buffoonry; terror of approaching death."

The whole history forms a picture of an acute case of poisoning from a strong dose of Aconite. The symptoms, which followed with violence and rapidity, one upon the other, prevented the appearance of many of the milder symptoms; the gastric organs and the sensorium seem, however, to have been principally affected. HAHNEMANN was perfectly right in adopting these symptoms, though he might have omitted 511, since it is nothing unusual for a patient to become more hopeful after vomiting.

2. The symptoms marked "MATTHIOLI" are taken from a case of poisoning, given in detail on p. 54, which was produced for the purpose of ascertaining the antidotal power of the Bezoar stone, and another pretended powerful agent. HAHNEMANN has taken only a part of the symptoms, rejecting those which seemed to have been the effect of the antidote. All the symptoms taken, namely: 9, 64, 65, 71, 72, 76, 92, 116, 137, 153, 194, 335, 372, 399, 401, 450, 452, 500, 508, 509, 510, 539, have the characteristics of the action of a large dose of Aconite, and are perfectly in place.

The symptoms marked "BACON" are derived from a case of accidental poisoning by Aconite root, contained in a salad, (Comp. p. 34, where the symptoms mentioned in the "Frag. de Vir. Med. Pos." are referred to). In the third edition of the "Mat. Med. Pur." these symptoms are: 9, 66, 76, 97, 104, 117, 164, 388, 412, 415, 419, 453, 454, 493. These are all useful and valuable. We might erase, as not belonging to a list of symptoms, only 164: "Exacerbation by artificial vomiting;" and 419: "Tranquil sleep."

4. The symptoms marked "RÖDDER," owe their origin to the accidental contact of the extract of Aconite with a fresh wound of the thumb. (Comp. p. 35.) HAHNEMANN has given this unusual mode of action with the symptoms; we find them in the "Mat. Med. Pur." as symptoms:

"173. Pressure in the stomach.
"253. Anxiety, with danger of suffocation.

"334. Pain in the arm and fingers.
"496. Great internal heat, with thirst."

One of the symptoms given in the "Fragmenta," p. 15, Symp. 13: "Swelling of the part and subsequent gangrene, with marked suppuration," HAHNEMANN has omitted in the third edition of the "Mat. Med. Pur." although it may be found in the first edition under Symp. 65, p. 232.

5. The symptoms marked MORÆUS, namely:

"163. Vomiting, with violent thirst.
"449. Drowsiness.
"503. Short-lasting wandering of mind,"

are not only insignificant and unimportant, but very suspicious; because, as we have already mentioned on p. 36, the whole history of the case rests only upon the verbal statement of a layman, and it is not even certain whether the poisoning was caused by Aconite. These symptoms should therefore be wholly erased.

6. Both the symptoms marked PET. DE ALBANO:

"403. Every part of the body gradually becomes black, the whole abdomen swells, the eyes project from the head, the tongue hangs out of the mouth.
"7. Swooning,"

are taken from the treatise of PETRI DE ALBANO, "De Venenis," Cap. 30, page 48; they are so universally received as to render it more than doubtful whether PET. DE ALBANO obtained these symptoms from his own observation; HAHNEMANN might also, with the same, and perhaps with a better right, have adopted the symptoms of poisoning quoted from AVICENNA. (Comp. p. 13.) Both these symptoms may therefore be erased.

7. The symptom bearing the name of EBERH. GMELIN, 413: "General sinking of the strength," is useless as a generally received symptom from a general treatise, and should be struck out. The passage referring to this point, in "Nova Acta Nat. Cur.," 1778, VI., p. 394, after a panegyric of Aconite as a remedy against gout and rheumatism, runs as follows:

"But I have found with regret that the too long use of it causes great prostration of strength."

8. Symptom 501, marked DÜRR: "Nightly raving delirium; will not allow himself to be confined to his bed; in the morning profuse perspiration," is taken from the history of a case contained in "HUFELAND'S Journal," Vol. IX., fourth edition, p. 104, and

relates to a man, thirty-eight years of age, who was suffering with rheumatism, to which was afterwards added erysipelas. After the use of various remedies, he had taken the extract of Aconite in the vinum stibiatum of Huxam. Here a metastasis of the gout to the brain might certainly have produced the delirium sooner than the Aconite, particularly as Dürr adds: "The rheumatic material was so fleeting that it changed its place frequently from four to six times in an hour." Away also with this symptom!

9. Why the symptoms marked "Helmont," 23 and 502, should be regarded as suspicious and should be rejected, we have already given our reasons on p. 17.

10. The symptoms marked "Störck," we might subject to a close examination. As we have already mentioned (p. 60), Störck made several trials of Aconite upon himself; the symptoms relative thereto are:

"120 and 121. Burning on the tongue, continuing a long time; quick fleeting stitches in the tongue, with flow of saliva. (Both these symptoms arose from sprinkling the powder on the tongue.)

"494. Odorous sweat over the whole body (after internal adminstration for several days)."

But besides these symptoms, derived from a genuine physiological proving on the human body, we find, borrowed from Störck, the following:

"209. 'Purging' occurred several times in women affected in part with quartan fever, and in part with rheumatism and swelling of the cheeks, after taking two doses of ten grains each.

"227. 'Copious flow of urine,' was observed in a patient who was suffering with violent pain in the right side, and who had just recovered from intermittent fever.

"251. 'Profuse, tough, yellowish discharge from the vagina,' in a woman who had a large swelling in the right side, which after this profuse discharge diminished in size, and finally disappeared altogether. Judging from the description, the probability is that in this case an ovarian cyst opened through the vagina, and the Aconite had no connection with the 'discharge from the vagina.'"

Symptoms 389, 394, 395:

"Itching all over the body and especially about the pudenda; reddish vesicles, filled with an acrid fluid; broad, red, itching vesicles all over the body."

Upon the second day after the use of Aconite had been commenced, in a man twenty-seven years old, suffering with rheumatism of the right arm, the vesicles remained eight days, but disappeared after the use of a cathartic and, although the use of the

extract was continued for four weeks, did not return. These symptoms were all noticed in sick persons who had already suffered a long time from a great variety of diseases, and there is not a single one which can be ascribed with certainty to the employment of Aconite. These symptoms, therefore, are to be rejected *en masse*.

11. The symptoms marked GREDING, are to be regarded with a still greater degree of suspicion. These, too, were observed in a variety of patients, particularly upon maniacal and epileptic, and although the dose of the preparation which GREDING gave—and which, in comparison with STÖRCK's extract, was much stronger—might have been large enough to produce nausea, vomiting, purging, and disturbances of the urine in some instances, there are many other symptoms which one does not know whether to attribute to the Aconite or to consider as dependant on the disease. These symptoms are:

"Symp. 10. Vertigo, dyspnœa, and dry cough with sciatica."

The history of the case (fourth trial) begins thus:

"A woman, aged sixty-eight years, was affected for several years with dyspnœa, violent cough, and attacks of rheumatism and gout."

"Symp. 68. As if one had become chilled after a profuse sweat; headache, singing in the ears, catarrh, and pain in the belly."

But the literal account of GREDING, *loc. cit.*, p. 231, is:

"Meanwhile there arose, now and then, particularly in the morning, from the chilliness of the body which followed the profuse perspiration, pain in the head, roaring in the ears, catarrh, and colic."

"Symp. 77. Contortions of the eyes and grating the teeth (at about midnight), in a woman who had been subject, from the time she was a year old, to epilipsy, and was idiotic." !!!

Cf., *loc. cit.*, p. 240:

"152. Vomits round worms."

What has Aconite to do with that?

Symp. 138, 151, 154, 155, 162, 167, 168, 169: symptoms of nausea and vomiting of a tenacious substance, yellowish-green or bloody slime, and hiccoughing.

Symp. 210, 221, 222, 224, 225, 226, 228: symptoms of increased flow of urine in a rheumatic patient.

Symp. 252: "Insanity upon the appearance of the menses." Nothing is in this case to be attributed to the Aconite, for the woman, who was thirty-six years old, had been mad since her eighteenth year! *Vide loc. cit.*, p. 232.

Symp. 260, 269: Catarrhal symptoms in the case of a patient who was suffering from chronic cough.

Symp. 307, 353, 406: Rheumatic symptoms in patients who already suffered habitually with rheumatic complaints.

Symptoms 401, 402, 447.

"Convulsive symptoms, in a woman who was raving mad and suffering with epilepsy.

Symptoms 494, 495, 498, 499: "Copious sweat;" also in the case of a patient suffering with rheumatism.

The histories of the cases from which HAHNEMANN borrowed these, in our opinion, altogether useless symptoms, may be found in J. W. GREDING'S "Sämmtlichen Medic. Schriften," published by C. W. GREDING, Greitz, 1790. Part I., p. 229–248.

The symptoms taken from the "Archiv. f. d. Hom." were observed by STAPF and GROSS, upon themselves and others. A critical examination of these in the original text is impossible, since, throughout, no particulars are given as to the dose and repetition of the drug, nor of the condition of those proving it, nor are the symptoms arranged according to the provers; at the most, only the time of the appearance of the symptom is given. As for the rest, there is much presented that is characteristic and confirmatory.

We shall be sustained in our opinion if we assert that, by erasing all those symptoms in the above list which are designated as suspicious and uncertain from HAHNEMANN'S pure "Arzneimittellehre," and from NOACK and TRINK'S "Hand-book," into which they have naturally been copied, not only will no injury be done to the Hahnemannian proving of Aconite, but it will be materially bettered and purified. The symptoms allowed to remain are the most marked and characteristic. But, moreover, the Hahnemannian provings find their most brilliant confirmation in two other provings, which were undertaken by homœopathic physicians after him. They are the following:

1. HENCKE'S proving of Aconite, first openly communicated in the "Archiv. of Hom.," Vol. XX., Part I., p. 181, and adopted with their symptoms into their "Hand-book," by NOACK and TRINKS, Part III. These trials were made by HENCKE, as well upon himself as upon others, for the most part with strong doses of the original tincture, and with all the precautions necessary to

be observed in such provings. The symptoms given are marked and characteristic; only the symptom observed by one prover, W., "cough, with blood-red expectoration," can hardly be received as a pure Aconite symptom, since the account of the health of W. says that, two years before, he had had a violent catarrh of the lungs, with a bloody cough, and that he was of a slender and rather phthisical and arterial habit.

2. GERSTEL's proving of Aconite. A very comprehensive and excellent proving was delivered, at Vienna, by the homœopathic physicians who had laid out for themselves the task of delivering "contributions to a physiological reconstruction of HAHNEMANN'S Materia Medica." In one of these contributions, the second, we find in the second part of the first volume of the *Oestreich. Ztschrift. für Homöopathie*, the "Sturmhut of A. H. GERSTEL." After the author has treated of, and carefully examined, in the first three chapters, the botany, history, and the Hahnemannian provings, he proceeds, in the fourth chapter, p. 27, to the "statement of the results of his provings of Aconite on healthy bodies." The trials were made on sixteen persons, two of whom were women, and with all those precautions and preparations which a scientific investigation demands in such trials, in a comprehensive manner, with strong doses of the original tincture; to which were added five trials on animals, with the facts disclosed by the post-mortem examination. In the seventh chapter, GERSTEL criticises the symptoms of Aconite which HAHNEMANN took from trials on the sick, and it gives us much pleasure to observe that, in regard to these symptoms, he is as sceptical as ourselves, and rejects them without mercy. The author undertakes a great but thankless task, furthur on, in the eighth chapter, a truly Augean labor, in detailing the cures of Aconite in the old and new school. In the ninth chapter, he gives the old and new opinions as to the *modus operandi* of Aconite, and then proceeds to the exposition of his own views on this point, to which, in the tenth chapter, he adds the therapeutic indications of Aconite according to homœopathic and allopathic principles. Finally, in the eleventh chapter, the author gives a scheme of symptoms produced by Aconite upon healthy human bodies, derived from his own and HENCKE's experiments, as well

as, in part, from some of HAHNEMANN's cases of poisoning which are not so generally known: in all, 712 symptoms.

This comprehensive work loses but little of its great value from the doctrinary and hypothesis-forming mode of exposition employed with some pretension, and from the arbitrary calling and separation of isolated symptoms into so-called active and passive. We cannot, however, in this respect, give our unqualified assent to the deprecatory and, in many instances, violent exclamations against the author, which appear in some remarks of the editor.—WATZKE.

It will not be a ground of reproach to us that we have not thought best to insert in our work both these provings of HENCKE and GERSTEL, nor the catalogue of symptoms from the third edition of HAHNEMANN's "Pure Materia Medica." To have done this would have been a wearisome and useless expenditure of strength and time; the provings referred to, as well as their results, being within the reach of every one, in the original excellent works, and in NOACK and TRINK's "Hand-book."

ACONITINE.

To the honor of the discovery of Aconitine there are several claimants. Without presuming to take upon ourselves the decision of this point, we will merely call attention to the fact that HESSE was, to all appearances, the first one who demonstrated the existence of a principle in the Aconitum-napellus peculiar in its operation upon the organism, and akin to the active parts of the plants themselves (GEIGER and HESSE, *Pharm. Centralblatt*, 1811, p. 85). At the same time, or only a short time after, SUBEIRAN, BERTHEMOT, and TURNBULL gave directions for the best method of obtaining this alkaloid. Whether, however, a uniform preparation was obtained by these various methods, cannot be determined.

TURNBULL, the first one who introduced Aconitine, together with other alkaloids from the family of ranunculaceæ, into practice, was also the first one to give a few cursory glances at its physiological action. Unfortunately these refer solely to the external application of the drug—a method of employment to which he seemed generally to have resorted in practice, although

there are directions given by him for its internal use (*Cf.* "Literature," TURNBULL). According to TURNBULL, the inunction of nine grains of Aconitine dissolved in two ounces of spirits, or of eighteen grains of Aconitine mixed with an ounce of fat, produces:

"Sensations of warmth and prickling in the places which have been rubbed, which is followed by a feeling of numbness and drawing together in the parts, as if a heavy weight lay upon them, or as if the skin were contracted by a powerful and involuntary action of the muscles beneath it, which feeling lasted from two to twelve hours, according to the quantity rubbed in."

FLEMING (*Loc. cit.*, p. 19) describes as follows the action of Aconitine rubbed into the skin:

"A feeling of heat and itching soon sets in, followed by numbness and a sensation of constriction and drawing. The skin is no redder than it would be made by any kind of rubbing."

While new physicians, upon the recommendation of TURNBULL, frequently administered Aconitine by inunction, all investigation as to its action upon the economy, when taken internally, was almost entirely neglected. SCHROFF, more recently, in the course of his inquiries into the action of Aconite, embraced Aconitine also in the field of his researches, and the laborious provings on the part of his co-workers have furnished a valuable result, which may be found in the *Prague Vierteljhrsch.*, XI. Jahrg., Vol. 42, p. 153.

1. DWORZACK and HEINRICH took Aconitine, both in substance and in the alcoholic solution; from the last, it was precipitated by the saliva. Its taste was intensely bitter, and lasted a long time, and even when the bitterness had disappeared, after large doses had been taken, there still lingered, for a short time, on the lips and tongue, a biting, burning taste. Immediately after taking it, eructations and rumbling in the bowels set in; the head and face became suddenly warm; the warmth extended over the rest of the body, was most intense in the region of the stomach and in the belly, and was accompanied by sweat; there arose a peculiar drawing, pressing sensation in the cheeks, the upper jaws, in the forehead, and, in short, throughout the whole tract of the nervus trigeminus, increasing by degrees in intensity, alternating at first with remitting, wandering pains, finally becoming steady and quite severe. The pulse, at the beginning, at the same time with the accession of warmth, was more frequent, but soon after sank below the regular standard, was small, weak and, at times, a

pulsus dicrotus. The pupil showed, at first, an unusual mobility, was at one moment greater, at another smaller, but finally became so much dilated that only a small ring of the iris could be seen. This symptom, according to the statements of these authors, appears constantly, whether the Aconitine be administered internally or applied directly to the conjunctiva. The fullness of the head becomes more marked; there sets in ringing in the ears, giddiness, and incapacity to reflect. The flow of ideas is sluggish, long reflection impossible, and the power of attention much impaired. After the slightest mental exertion, the head and face-ache become very intense. There is a certain amount of relaxation in the limbs, and every muscular exertion—such, for instance, as going up-stairs—is accompanied by unusual fatigue and prostration, and by increase of the pain in the head and face. The flow of urine is very much increased. So far as the difference of the symptoms is concerned, when different doses were administered, the eructations, the rumbling in the bowels, the drawing, stretching feeling in the tract of the trigeminus, and the rising of the pulse in the first place, and its falling afterwards, were always present.

A dose of 0.004 gramme was always followed by warmth, tightness, and pain in the head, lasting only a few hours, while the symptoms after a dose of 0.01 gramme reäppeared the day after the trial, accompanied by mental and bodily activity. After a dose of 0.02 and 0.03 gramme, the above mentioned symptoms appeared as they have been described; the pulse sank to two-thirds of its normal standard, and remained thus low for more than twenty-four hours, and for the same length of time continued also the pain in the face and head, the feeling of fatigue, the weakness of memory, &c. Not until the second day after the trial, when these doses were given, did the condition become normal. The action of the Aconitine was also clearly manifested in the eructations, rumbling, dilatation of the pupils, retardation of the pulse, dullness of the head, pain in the head and face, mental distraction, weariness, increased perspiration, and diuresis.

The other experimenter, Heinrich, experienced, after a large dose (0.05 gramme), the following symptoms: The taste was disagreeable and disgustingly bitter; in ten minutes there was a burning sensation on the tip of the tongue and on the lips; the

pulse was, at first, accelerated, but afterwards became slower, from 52 to 47 beats within an hour and a half; the whole body was warm, perspiration set in, the head was dull and heavy, and with it exhaustion and weakness; there was a crawling sensation in the face, and a feeling as if the epidermis were scaling off; the skin looked as if punctured with red spots; the pupils were dilated, there was pain in the head and face, roaring in the ears, weakness of the muscles, and difficulty of respiration. Eructations and rumbling in the bowels did not set in till two hours after the dose had been taken. After supper there was a burning sensation all over the mucous membrane of the mouth. The head and face-ache lasted all the evening, as did also the debility; the sleep was disturbed. The day after the trial the pain in the head and face returned, together with forgetfulness and trembling of the legs. Even when all the doses were smaller, these symptoms were constant: The acceleration of the pulse at first, and its retardation afterwards, the burning on the tongue, and the pain in the face and head (particularly in the course of the supra-orbital nerve). A dose of 0.01 gramme was followed besides by an inclination to cough, cough, with easy expectoration, dryness in the throat, eructations, and exhaustion.

Numerous experiments on animals were also made by SCHROFF, and a statement of these trials may be found in the latest investigations of LEONIDAS VAN PRAAG (Virchow, Archiv., VII., 3–4, p. 438), to which we shall return further on. But, in order in this place to draw a sort of parallel between the action of Aconitine and of the other preparations of Aconite—for example, the extract—we give the ideas of SCHROFF relative to this point. *Loc. cit.*, p. 163:

"The action of Aconite is manifested as that of a narcotic; that of the extract having the characteristics of an acrid narcotic poison. The extract and the Aconitine possess, however, these effects in common: The rumblings and eructations, the dilatation of the pupils, the retardation of the pulse and respiration, the pain in the face and head, the dullness of the head, the confusion of ideas, the dizziness, weakness, and increased flow of urine.

"Peculiar to the extract, however, is the creeping, with subjective feelings accompanying it; the increased secretion of saliva; the dryness and coldness of the skin, which with Aconitine is warm and moist: the sickness at the stomach, nausea, vomiting, and sleeplessness, while with Aconitine the sleep is good."

SCHROFF further concludes, from a comparison of the experiments, that, in addition to the Aconitine, to which must be as-

cribed the narcotic symptoms, other principles must be present, as, for instance, acids whose existence has yet to be demonstrated. To these, the quick accession of gastro-enteritis accompanying the symptoms must be attributed. Finally, Aconitine can in no way be regarded as a pure narcotic, while, together with the symptoms of a narcotic, it presents also those of an acid.

B.—On Animals.

Were we to treat with the same minuteness of the numberless experiments that have been made upon animals with Aconite, from the time of Wepfer down, as of those made upon men and of accidental cases of poisoning, this division of our work would be much more extensive than any other part. While we have not been able to discover any real use in such a detailed citation—but have, at the same time, felt obliged to give the main points of the results of these experiments upon animals, in order that a comparison might be instituted between these symptoms and those observed in men—we have undertaken this work after a careful examination of authorities, and thus adopted a useful arrangement. At one time, we examined these experiments according to the scale of development of the classes of animals, commencing with those lowest organized; but we also took into consideration the difference of application. We have made no distinction between the experiments made with Aconitine and those made with Aconite, because the provings of the former upon men have just been discussed in the preceding chapter, and the trials made upon animals, both with the preparations of Aconite and Aconitine, attach themselves to these clearly and naturally. Nevertheless, we have thought it proper here to give, briefly, accurate accounts from the literature upon this subject.

I.—*Effects of Aconite According to the Classes of Animals.*

a. Infusoria.—Fleming, *l. c.*, p. 112.

1. Fleming let the leaves, flowers, and pieces of the root of Aconite macerate in water and allowed the mixture to stand for a month. At the expiration of this time, no infusoria had been developed; while, in an infusion prepared in the same way from apple leaves, at the end of a like period of time, numerous infusoria were visible.

2. Two glass cylinders were filled to the same height with water which was full of infusoria. To the contents of one of the cylinders, a drop of a solution of the Muriate of Aconitine was added. A microscopic examination showed, the next morning, that all the infusoria in this glass were dead, while those in the other were full of activity.

3. To a drop of water which contained many infusoria, was added, under the microscope, a drop of the juice freshly expressed from Aconite leaves. The infusoria at once made violent and rapid movements throughout the field of vision, which soon, however, grew weaker, and in a short time ceased. The animals were dead, and without any material evaporation of the fluid having taken place.

b. Worms.—FLEMING, *l. c.*, p. 111.

1. Several drops of the solution of Aconite were prepared upon a glass plate, and an earth-worm placed upon it. At once it began to squirm and twist; five minutes later his motions became weaker, and in twelve minutes it rolled itself up, became perfectly paralyzed, and died.

2. Another earth-worm was half immersed in a solution of Aconite. In ten minutes this half was completely paralyzed, while the other half remained unaffected. Placed in fresh water, the animal fell to the bottom, and, thirty-five minutes after, was curled up and dead.

c. Fish.—SCHULZ, "Dissert. de Aconiti Effectu," Marb., 1846.

1. A half or two-thirds of a grain of the Muriate of Aconitine was introduced into the mouth of a cyprinus alburnus, an inch long; a minute after, he laid upon his side, swam in this position for a short time, breathed with difficulty, and died at the expiration of five minutes.

2. Another cyprinus alb. took, *per os*, half a grain of Acon.-mur. He immediately gasped with his gills, swam in the water, lying by starts on his side, breathed heavily, lay perfectly quiet, and died in five minutes.

3. The same results followed the administration of a like dose to another fish of the same kind.

4. A perca fluviat. received half a grain of Aconitine, by inunction through the gills and jaw-bones, after which he was replaced in the water, and, laying on his side, swam from time to time, and

was very restless; soon, however, he became quiet, breathed with open gills, by degrees less frequently, and died after twenty minutes had elapsed.

V. Praag.—"Virchow, Arch.," VII., 314, p. 438. Fish, on whose jaw-bones a solution of Aconitine had been rubbed, soon showed, in all the muscles, a high degree of rapidly increasing adynamia. The difficulty of respiration was, in these cases, clearly marked, while the frequency of the pulse was diminished.

d. Blind-worms.—Schulz, *l. c.*

1. A blind-worm, in the mouth and upon the muscles of which a concentrated solution of Aconite was rubbed, ceased playing with its tongue, closed its eyes, wound itself up into the form of a circle, and breathed heavily. Soon after, it lay there as if asleep, without any movement when irritated, and in about thirty minutes was quite dead.

2. Some solution of Aconitine was applied to two small wounds in the mouth of another blind-worm. It at once turned itself violently, but afterwards lay quite still and slept, with only slight movements of the tail, and died in twenty minutes.

e. Water-snakes.—Schulz, *l. c.*, p. 6.

A grain of Aconitine was administered to an earth-worm three inches long, partly *per os*, and partly through two spots which were laid bare on the muscles of the back. It made, at once, violent movements, but soon lay still, breathed laboriously, and turned itself upon its back; the tongue lay paralyzed in the mouth, the whole body was insensible and dormant, the end of the tongue being in perpetual motion; when lifted up, it hung upon the finger like a string. In eighty minutes it was dead.

2. A grain of Aconitine was administered, *per os*, to another earth-worm. It immediately ejected, with some force, a quantity of stinking fluid from the anus, but after that lay quite motionless. Some parts of the body showed a slight reaction upon tickling. The respiration, which before the poison had been four per minute, rose after the administration of the poison to eight, but sank in eight minutes to five; at the same time it raised the head once, and gaped widely. In ten minutes, it began to creep again, and, fifteen minutes after, a fresh dose of Aconitine was given it. It still crept some, then lay still, rolled up into a ball, displaying reaction when irritated. But, after a new dose had been

gives, it, it turned its head, now to the right and then to the left, lay still, became insensible, and died at the expiration of thirty-six minutes.

J. Frogs.—These animals have been frequently employed in experiments with Aconite, either for the purpose of observing through the transparent web-membrane the movements of the blood-current, or to make experiments with their eyes or their hearts, after they had been laid bare. VAN PRAAG, *l. c.*, found that with frogs, which had taken Aconite in solution internally, the principal symptoms were: rapid adynamia, followed quickly by paralysis and loss of reactive power; complete anæsthesia also set in. The paralysis affected at first the hind legs and then the fore-feet, the head being seized last; the respiration was impeded or accelerated, the heart was not paralyzed immediately after death.

PREVOST (Memoires de la Soc. de Phys. et d'Histoire Nat. de Genève, Tom VI., p. 1) found that the capillaries of the web-membrane of the frog, when brought into a state of artificial inflammation by iron heated to a glowing heat, and afterwards immersed for several minutes in a mixture of eight drops of the tincture of Aconite to an ounce of water, were sensibly diminished in their diameter, the inflammation was confined to a smaller space and healing was accelerated.

LOMBARD (*Gaz. Méd. de Paris*, Oct. 10, 1835) deduced from his experiments on frogs, the conclusion that, after the internal administration of Aconite, the circulation becomes slower in the proportion of 51.6 to 36.5, and so much the more, the longer the drug is employed. The contractions remain tolerably regular, the blood does not coagulate nor lose its clear red color.

SCHULZ (*l. c.*, p. 8), in three trials upon frogs, in which the Aconitine was employed both internally and externally, arrived at the same results as VAN PRAAG.

The same was the case with COGSWELL, *Lancet*, Nov. 1852.

The experiments which LANG (Hygea, XIV., 231) and SCHRŒN (*Vierteljahrschrift für Hom.*, II., 49) made, demonstrate the influence which the action of Aconite has upon the movements of the blood, and this influence is not merely local, but affects the whole circulatory system.

J. W. ARNOLD (Hygea, XXI., 1) also frequently made use of

frogs in his experiments. He mentions as the principal and first effect of Aconite, which comes on after a short acceleration, the permanent and well marked retardation of the heart's contractions and of the respiration, which last was very laborious, while the voluntary motions grew more feeble, became uncertain, trembling, and twitching, and finally passed into paralysis.

γ. Birds.—Geiger and Hesse (Annalen der Pharmacie, IV., 70) experimented upon sparrows with several species of Aconite, but without any particular result. In one case they observed all the symptoms of a narcotic poison: the animal staggered, grew continually weaker, and died in two hours.

Van Praag proved accurately and comprehensively Aconitine upon doves and finches. He found that, with these birds, the circulatory and respiratory symptoms presented nothing at all remarkable; but that, on the other hand, the depression of the muscular strength was very remarkable, clonic cramps coming on only at the end, which terminated life. This adynamia was accompanied by such decided apathy that the animals seemed sleepy and torpid, as after taking Morphine. Dilatation of the pupil was observed in one instance, and, in one case only, inclination to vomit and salivation; the animals which were killed lay upon their right side.

Schulz (*l. c.*, p. 10) gave a blackbird (*corvus monedula*) two grains of Aconitine by the beak. The first minute she remained quiet, the next she vomited and passed thin excrements, could not walk, but sat with the lower joints bent under her and was insensible to pricking with a needle; respiration hindered. After five minutes she constantly tried to vomit, and turned her head heavily hither and thither; in walking, she staggered and tottered, fell upon her side, without being able to right herself again; did she succeed in standing, she walked with a staggering gait, supported by her wings and tail, and with bent knees. The respiration, which had become much weakened, was now only thirty per minute. After twelve minutes the bird would have remained lying on its back if it had been allowed to do so. The muscles of the extremities trembled spasmodically; respirations only forty. The anæsthesia was so great that pieces of the skin could be torn off without producing any feeling; after twenty-five minutes the number of the respirations sank to twenty and eighteen. The

bird sat there with closed eyes, with the body and head bent to the earth, opening its eyes only when touched, as if very sleepy. After fifty-five minutes the respiration increased in frequency, yet the animal lay all day sick, and could not use its legs, but let them lay one under the other. After twelve hours it made an ineffectual attempt to climb. At the expiration of twenty-four hours all the symptoms had disappeared and the animal was well.

Two grains of Aconitine were now administered to the same animal, partly by the beak and partly through a wound in the back. It turned at once upon its side, opened its beak often, and the breathing constantly grew slower; after ten minutes only forty-five, and after thirty-three minutes only twenty-two respirations. The bird lay there thus in a state of anæsthesia for several hours; after twelve hours had elapsed it recovered itself a little, but could not get up. At the expiration of twenty-four hours it was quite well.

Twelve experiments with doves, and one trial with a full grown hen, led to the same results. Only convulsive symptoms were observed before death.

h. Mammalia. 1. *Porpoises.*—GERSTEL (*Ostr. Ztsch. für Homöop.*, I., 2, 138) observed, after the gradual administration of from forty to eighty drops to a desert-spoonful of the tincture of Aconite: Increased respiration, an increase in the number of beats of the heart, apathy, sleep, great weakness, and insensibility to external irritation, diarrhœa, swollen abdomen, and, finally, complete immobility, and, on the fourth day, death.

2. *Rabbits.*—As in other experiments, so have rabbits been frequently employed in trials with Aconite and Aconitine, both these substances being employed in a great variety of ways. The experimentors have been:

BRODIE, "Phil. Transact.," 1811, p. 185.
BERGHES, "Annalen der Pharmacie," I., p. 120.
GEIGER and HESSE, "Ann. d. Pharm.," IV., p. 69.
FLEMING, "Inquiry," *l. c.*, p. 91.
GERSTEL, *Homöop. Oestr. Ztschrft.*, I., 2, 139.
ARNOLD, "Hygea," XXI., p. 8.
SCHULZ, *l. c.*, p. 16.
SCHROFF, *Prager Viertljsch.*, XIII., 129.
VAN PRAAG, "Virchow's Archiv.," VII., 3 and 4, p. 438.

HOPPE, "Nervenwirkurg der Arzneimittel."

To avoid repetition we give here the result of a fatal case of poisoning after the internal administration of the extract of Aconite to a rabbit, as related by SCHROFF, *l. c.*, p. 144:

"Immediately after taking sixteen grammes of the extract, broken into pieces with powdered gum-arabic, the animal made motions with its jaws as if chewing. Five minutes after, the pupils became dilated; the blood-vessels were distinctly visible in the ears, which became erect and injected; after twenty minutes the ears felt hot and were injected, even to the finest vessels; the pulsations in the greater vessels of this part were distinctly visible, yet their number here, on account of their great frequency, and at the heart, where numberless vibrations were observed, could not be determined; the thorax remained motionless, the respiration being carried on entirely by the abdominal muscles, with continually interrupted movements of the nose; number of respirations, two hundred and two per minute. The animal is very restless, attempts to move, now backwards and now forwards, but falls down upon its belly, passes a quantity of thick, yellowish-white, and almost pappy urine; the twenty-fifth minute he pushes the hind-foot far backwards, lies with the belly on the bottom of the sieve, holding fast with its fore-feet to the ring; the epigastrium as well as the whole body is insensible, and the skin does not react upon any irritation; pulse and respiration cannot be counted; no more chewing motions. After half an hour the pupils are dilated; there is great restlessness; the fore-feet are still capable of voluntary motion, and the hind-feet can be extended and stretched a little; ears erect and moderately warm. When taken out of the sieve he places himself upon his hind-feet, but without being able to advance. At the fortieth minute the respiration had sunk to forty, pulse 48, weak, and very small; ears cold. An hour from the commencement of the experiment, there was considerable trembling and shaking of the whole body; pulse and beating of the heart not perceptible for several seconds, then very weak, irregular and undulating; the animal is by turns warm and cold to the touch. In this condition he remained, breathing deeply and slowly, for three hours and a half, at the expiration of which time he died, without presenting any more symptoms."

All the other experiments in which the preparations of Aconite were taken into the stomach, offer almost exactly the same results, only the symptoms differ in intensity, and are not so minutely described. Vomiting, as is known, does not occur so easily in rabbits as in other animals, on account of the peculiar construction of their stomach.

In regard to Aconitine, the same author says (p. 148) that experiments with it, in doses of from 0.1 to 0.2 gramme, were attended with the following results:

"With the exception of the diminution in the frequency of the respiration and of the pulse, salivation, which occurred sooner or later (the saliva was drawn out in long threads, and contained some epithelial scales and small bubbles, which refracted the light powerfully) and the great mobility of the iris which existed at first, and the quickly following change in the size of the pupil, and the permanent dilatation of the pupil which existed after-

wards, no symptoms were observed particularly worthy of remark. Decrease of sensibility was never observed; on the contrary, external irritation was followed by violent reflex movements.—0.4 grammes of Aconitine, dissolved in alcohol, produced in a rabbit, in a short time, a marked diminution in the frequency of the pulse and respiration, and, after a little time, great sleepiness of the animal, with a lowering of temperature; the organs of locomotion were not at all impeded in their functions, yet, after many attempts to make the animal move had been made, and it was allowed to rest again, it went to sleep immediately; the pupils were widely dilated, even under the irritation of a strong artificial light."

3. *Cats.*—As these animals, on account of their obstinacy, are not very good subjects for experimenting upon, we find that they have been but little used in experiments with Aconite. Geiger and Hesse (*l. c.*) observed, after twenty grains of Störck's extract of Aconite had been given, that the animal often chewed, ejected a good deal of foam from the mouth, and was, for some time, dull and sleepy. Fifteen grains of the extract of the broad-leaved variety of Aconite produced upon a kitten, four weeks old, no effect. Half a drachm of the extract of Aconitum-napellus being given to another stronger cat, the same symptoms occurred as were seen in the first place; soon, however, the chewing was increased, accompanied by foam, which ran out of the mouth; she also vomited foam several times, with violent cries; seemed very tired, staggered in walking, often trembled spasmodically, especially in the hind parts of the body, reared herself against the wall, and fell over, spread out her fore-feet, drew herself up, beat with her paw in the air, and tried to vomit. Later, more cramp-like, writhing movements were manifested, she passed water, placed her head upon the ground, and raised it up, and displayed particularly a condition of giddiness and intoxication. These symptoms continued, increasing in intensity for four or five hours, until, at length, the animal lay quite exhausted, but on the next day she was perfectly well.

Another young cat (p. 72) was made to take half a drachm of the extract, which had been freed from the chlorophyl. The respiration at once grew rattling, and there was chewing and foaming; the animal seemed, however, to recover itself, and played with another cat, but suddenly fell upon its back, sprang convulsively into the air, and came down as if dead; all the limbs were paralyzed, and, on taking up the animal, they hung down loose, as did also the head; later, however, it recovered

itself so far that the limbs became firmer and capable of movement, and it was able to make its way slowly along. It lay, in the meanwhile, for the most part, with its legs spread out under its belly, with its head bent almost to the ground; the quivering became more violent, the eyes were for a long time insensible to the light, the pupils widely dilated. The same condition continued the next day, though it was less distinctly marked; there were frequent diarrhœic stools and passages of the urine; the animal did not eat, became weaker, and died forty hours after the dose had been administered.

Schulz (*l. c.*, p. 17) rubbed two grains of Aconitine into a wound between the shoulder-blades of a cat. Thereupon she raised herself upon her hind-feet, rubbed her mouth and head with her fore-feet, vomited a little milk, began to walk backwards, to scream violently, and held the throat wide open. Face horribly disfigured, the eyes protruded, fixed, and glassy. After ten minutes the cat falls upon her side, vomits again, whines pitiously, and passes thin stools. Sometimes she raises herself, attempts to walk, but falls back again. Respirations forty, laborious. The extremities become paralyzed, spasm of the glottis sets in, respiration only twenty-two. The animal thus lays there for half an hour in quiet, only occasionally moving its tail; whines, and has occasional passages from its bowels. The anæsthesia increases, the respirations become less frequent. At the end of an hour, violent convulsions set in, followed, shortly after, by total lethargy, and, at the expiration of six hours, by death.

4. *Hedgehogs.*—Schulz, *l. c.*, p. 16. Half a grain of Aconitine was administered to a hedgehog, through a deep wound in the back. Two minutes after, it cried loudly, rolled itself up, and put its legs out from under it. In four minutes, it rolled itself up, and unrolled itself again, snapped at the air with open mouth, and did the same when seven minutes had passed, and it could no longer roll itself up. It lay there as if dead, then suddenly shook, as if by a tetanic spasm, as though it would tear off its prickly skin, which hung from its back like an empty sack, while, in the meantime, death set in.

Dogs have been frequently employed in these experiments. Wepfer (Hist. Cicutæ Aquaticæ, p. 177) made a trial of Aconite upon a dog, and, as the oldest trial of this kind on record, we

give the account of it *verbatim*, particularly as it agrees with the results which have followed the experiments of the other and latest authors:

"Catello trium circiter septimanarum radicis Napelli recentis contusæ drachmam dimidiam cum lacte hora 2 pomeridiana intrudi; aliquamdiu incessit ac si nihil deletarii accepisset, subinde vagiit, quandoque caput succussit, quasi nausearet. Prætenta prope hora dimidia pedes posteriores traxit, paulo post ingressu ad latus sinistrum inclinavit atque sæpius in illud lapsus est; subinde totum corpus motu convulsivo concutiebatur. Non diu post evomuit lac spumeum et aliquando grumosum. Motus convulsivi aliquamdiu continuerunt; hinc in latus decubuit: non obriguit a tetano: decubuit instar moribundi ultra horas duas ab accepto Napello et quasi suspirioso vagiit. Abdomen intumuit, illo inciso fortius vagiit et valide artus movit."

"I administered, at two o'clock in the afternoon, to a puppy seven weeks old, half a drachm of recently bruised Aconite root mixed with milk. For some time, it went about as if it had taken nothing injurious, then began to whine, and to move its head as if it were nauseated. Half an hour having passed, it drew in its hind-feet, and afterwards, in walking, it inclined a little to its left side, and frequently fell down upon it; soon after, its whole body was shaken by a convulsive movement. Not long after, it vomited bloody milk and some grumous fluid. The convulsive movements continued some time. It then lay upon its side; was not affected by tetanus; it lay as if it were dying more than two hours after taking the Aconite, and breathed, as it were, painfully. The abdomen became swollen, and, an incision being made into it, it whined loudly, and moved its limbs violently."

The results afforded by the vivisection are of no value.

All the other experiments which COURTEN (Philos. Transact.), GERSTEL, ORFILA (Toxicologie, übers. by KRUPP, p. 374), FLEMING, SCHROFF, and VAN PRAAG made upon dogs, in which the various preparations of Aconite or Aconitine were administered internally, or injected into the stomach, the œsophagus being left open or being closed, led to the same general results, which we shall presently give *in summa*.

6. *Wolves.*—The only trial upon these animals was made by WEPFER, *l. c.*, p. 177. As it is of historical, as well as practical interest to us, we give it literally:

"Jam semestris erat (lupus) et robustus.

"Ab hora matutina sexta ad pomeridianam secundam nihil cibi dabatur: per hortum et aream bacillo abactus valde incaluit: carnem objectam comedere noluit, serum vero appositum avide lambit et postea carnem devoravit. Postea aliud frustulum carnis, in quo drachma dimidia radicis Napelli abscondita erat, objectum fuit, quod venenum subodoratus attingere noluit. Itaque illum auribus apprehenderunt, os bacillo diduxi ac duo frustula carnis, quibus Napelli drachmæ duæ circiter involutæ erant, intrudimus. Vix octava horæ pars præteriit, quum ad vomitum stimularetur et paulo post mucum viscidissimum crassum, spumeum cum uno frustulo carnis evomuit. Ulterius ad vomitum concitatus atia duo cum Napello et muco viscidissimo crasso spumeo et flavo ejecit.

'Interea abdomen mire attollebat, valde angebatur, robustus tamen mansit, pedibus non mutavit, erga ignotos rictum edidit, baculum protensum morsu petiit; subinde mucosa et viscida evomuit. Paulo post ultra drachmas duas radicis contusæ sero lactis immiscui ac ore diducto denuo infudi. Brevi post frequenter ad vomitum irritabatur, multus nixibus frustraneis, tandem ter mucum viscidum crassum spumeum, quartaque vice ejecit mucum griseum turbidum, cui radices Napelli et fæces submigræ immixtæ erant: postea evomuit iteratis vicibus liquorem tenuem pellucidum, nonnunquam nullo colore tinctum; mire angebatur, huc illuc ivit, corpus quandoque ad parietem inclinavit; hucusque nondum decubuit: abdomen crebro contrahebatur, ut prope venter evanesceret dorsoque accedere videretur; diaphragmatis tensio et relaxatio frequentissime alternabant, nunquam vel alvum vel vesicam exoneravit, quod antea facile ex solo metu fiebat. His ultra dimidiam horam perdurantibus subito ambobus pedibus anterioribus fortiter terram fodit, brevique amplam foveam, ceu sibi sepulcrum paraturus, excavavit, ab opere avulsus func, quo ligabatur, subsiduit, moxque in latus decubuit: extractus e fovea aliquot gressus fecit: rursus fodere incepit, profunde os nasumque foveæ immisit, evomens mucum pellucidum viscidum coloris expertem: stans aut sedens subinde toto corpore tremuit, rursusque fodit; retractus et compulsus aliquot gressus peregit, non nutante corpore. Paulo post in latus decubuit, celerrime et cum suspiriis respiravit: ad vomitum adhuc stimulabatur: os spuma implebatur: nunquam convellebatur."

"The wolf was six months old and robust. No food had been given it from six o'clock in the morning to two o'clock in the afternoon, and, being driven about the garden and area with a stick, he grew very fierce; he refused to eat the food thrown to him, but afterwards, when it was placed near him, he licked it, and then devoured it eagerly. Another piece of meat, in which was concealed half a drachm of the root of Napellus was then thrown to him, but, smelling the poison, he refused to touch it. He was therefore caught by the ears, and, forcing open his mouth with a stick, we introduced two pieces of meat, in which were enveloped about two drachms of Napellus. The eighth part of an hour had hardly passed, when vomiting was excited, and, in a short time, he threw up a very viscid, clotted, and frothy mucus, with one of the pieces of meat. Being excited to further vomiting, he threw up the two other pieces, together with the Napellus, and with viscid, clotted, frothy, and yellow mucus."

"In the meantime his abdomen swelled in a remarkable manner; he grew very fierce, yet remained strong; did not stagger; snarled at those whom he did not know. A little while later, his mouth being forced open again, I poured in over two drachms of the bruised root, mixed with whey. In a short time there was frequent inclination to vomit, and, after many vain attempts, he at length threw up, three times, viscid, clotted, frothy mucus, and the fourth time, a gray, turbid mucus, in which were intermixed the Napellus roots, and dark colored fæces. After that, he vomited, from time to time, a thin, clear fluid, sometimes colorless; he became very fierce; went hither and thither; sometimes leaned his body against the wall; up to this point had not lain down; the abdomen was frequently drawn in, so that the belly would disappear, and seem almost to touch the back; rigidity of the diaphragm alternated frequently with relaxation. He did not at any time pass his water or excrements, which he had before been accustomed to do merely when frightened. These symptoms lasting more than half an hour, he suddenly commenced digging in the earth with all his might, with both his fore-feet, and in a short time had dug a large pit, as if he were about digging a grave for himself, and, being dragged away by the rope with

which he was fastened, he immediately laid upon his side. Being taken out of the hole, he took a few steps; began to dig again, and plunged his nose deep into the pit, vomiting a clear, viscid mucus, without color. Whether standing or sitting down, he trembled continually all over. Again commenced to dig; drawn off and driven away, he made a few steps, without staggering. A little later, he laid upon his side, breathed rapidly and with difficulty; attempted to vomit again; the mouth became filled with foam. There were no convulsions at any time."

The detailed account of the vivisection instituted in this case, measured by the then existing state of pathological anatomy, can be but of little value to us. Only the circumstance was particularly noteworthy, that there was a spasmodic contraction of the upper part of the pharynx, and consequently a lessening of the dimensions of the œsophagus, and that the *tape-worms*, in the intestines of the wolf, were not dead.

The sum total of the effects of Aconite and Aconitine, particularly on animals, was, in regard to the various classes of animals, the same; namely, a diminution of the activity of the heart and respiration in the first instance, and of the sensorium and lower part of the spinal cord in the second. If we consider the action of Aconite upon quadrupeds particularly, we find that, after the use of the various preparations (extract, tincture, and the crude substance), the following group of symptoms:

Restlessness; nausea; vomiting; salivation; quick, convulsive movements; paralysis of the hind-legs; insensibility to external impressions; alterations in the pulse and respiration; occasional diarrhœa,—were the most frequent and constant symptoms. Yet the strength of the preparation, the size of the dose, and its frequency, had a modifying influence, which is thus described by Schroff, *l. c.*, p. 147:

"The ears were injected more speedily and strongly, the respiration was sooner attended with difficulty, and performed only by the abdominal muscles, the pulsations at the heart and ears increased in frequency sooner, finally not admitting of counting, the hind-feet were drawn in earlier, and the animal seemed able to breathe only when lying upon the belly, the restlessness and inclination of the animal to move about were greater, the animal passed sooner a large quantity of urine, and the more rapidly was this enormous erethism followed by a high degree of depression, slowness of respiration, and of the pulse, coldness of the ears and body, the more quickly did death set in, and the more intense were the signs of gastro-enteritis in the body, according as the action had been more intense."

If Aconitine were administered, the results in the experiments on animals were somewhat different. Van Praag describes as follows the general effect (Virchow. Archiv., *l. c.*, p. 438)

"The respiration was in most cases, more or less retarded; in general, no particular difficulty in respiration was observed. The larger the dose, so much the more speedily and distinctly was the breathing impeded. In all the experiments the heart's action quickly became irregular and variable. On the whole, the pulse was observed to be very wavering. In the muscular system the most prominent symptoms were: Relaxation, universal loss of strength, sluggishness, and even dread of motion, and, in violent cases, paralysis of the muscles. Cramps and convulsions were observed only as the final symptoms of cases which terminated fatally; on the other hand, there seemed to be a certain excitement in the muscles with which chewing is carried on. The brain was clearly wearied, as was shown by the indolence and apathy. The general sense of feeling was very much blunted; complete anæsthesia being present. The sensibility of the eye was greatly impaired, and, in most cases, there was present remarkable dilatation of the pupil. In the stomach were observed the ordinary symptoms of all intoxications: nausea, vomiting, distress, and rumbling. No increase of activity was observed in the intestines; in one case only there was tenesmus. The passage of the urine was, in one case, so affected that ischuria arose, followed by a copious flow of urine. Profuse flow of saliva was observed in almost every instance.

II.—*Effects of Aconite when Applied Locally.*

a. Upon the Epidermis.—Fleming (*l. c.*, p. 109) saw no effect produced from sprinkling half a grain of Aconitine upon the corium, which had been made bare, on the head of a rabbit, by the formation of a blister by means of a hammer heated in boiling water; but adds, however, that no conclusion can be drawn from this as to the harmlessness of its endermic employment upon men. That Aconite salve acts energetically, we have already stated.

b. By Introducing it into the Rectum.—Brodie (Phil. Transact., 1811, p. 185) injected an ounce of the tincture of Aconite into the rectum of a cat. Three minutes after, she passed it all from her; lay still for six minutes, vomited, tried to walk, but staggered as if drunk. Thirteen minutes after the injection she lay on her side, motionless, and without sensation, having only, from time to time, light twitchings in the legs; the respiration was prolonged and difficult, and death followed forty-seven minutes after the administration of the injection.

Fleming (*l. c.*, p. 106) rubbed a quarter of a grain of Aconitine, mixed with fat, into the rectum of a rabbit. In one minute it grew restless, in three minutes the respiration became difficult and laborious, and suddenly became paralyzed. At the end of six minutes there was opisthotonos; the pupils were greatly contracted, but the eye-lid reacted when the cornea was irritated. In eight minutes the animal was dead.

In both these cases the absorption of the poison took place very rapidly; but, on account of the rapid action of a comparatively large dose, only a part of the ordinary symptoms, as difficult respiration, staggering gait, paralysis of the extremities and of the whole body, together with the skin, was developed.

c. After Introduction into a Serous Cavity.—FLEMING (*l. c.*) made two experiments of this kind. Quarter of a grain of Aconitine, mixed with fat, and introduced into a wound in the peritoneal cavity of a rabbit, killed it, the ordinary symptoms being manifested.

A twelfth of a grain of Aconitine, dissolved in dilute Muriatic-acid, and injected into the pleural cavity of a rabbit, killed it in seven minutes. The dissection, made immediately after, showed that the greater part of the injected fluid had been at once absorbed.

d. By Introduction into the Cellular Tissue.—In the experiments of FLEMING and ORFILA, instituted with reference to this point, both Aconitine and the preparations of Aconite were introduced into the cellular tissue of various parts of the body. The result was generally the same as if the poison had been administered *per os* or *per anum*, and the symptoms appeared with a rapidity proportionate to the size of the dose. FLEMING found the pupils contracted as often as dilated.

e. By Immediate Introduction into the Blood-current.—The experiments of ORFILA (p. 375) differ materially from those of FLEMING (p. 107). ORFILA injected, in one instance, half a drachm of the watery extract of Aconite, dissolved in two ounces of water, into the jugular vein of a dog. He at once passed his urine; was taken with some giddiness and distress; the dizziness increased, so that, in five minutes after the injection, he fell upon his posterior extremities, which were weaker than his fore-legs. He was raised up. Was disposed to sleep, and from time to time his hind-legs bent under him. After six minutes he had an evacuation. On the next day he ate, and did not seem very sick. On the third day the vertigo returned. He lay down upon his side; had scarcely any feeling, and died at the expiration of thirty-six hours.

It is remarkable that in this case death occurred so late, a

proof, at least, that no air could have been admitted into the veins in the operation. It is possible, however, that the extract was inactive.

Fleming, in one case, injected three-quarters of a grain of Aconitine, dissolved in three drachms of water, into the right femoral vein of a dog weighing thirty pounds. The eyes at once became fixed and opaque, the pupils were fearfully dilated; after four or five minutes the eyelids ceased to respond to the irritation of the cornea; the animal, with the exception of some twitching, did not move at all, and, within eight or nine minutes, was dead.

In another case, a drachm of a fluid containing a quarter of a grain of Aconitine was injected into the right femoral vein of a dog, weighing sixteen pounds. The animal at once began to struggle violently; in fifteen seconds the pupils were enormously dilated; the eyes fixed and glassy; the cornea lost all its sensibility, and in twenty three seconds all signs of life had departed.

f. Application to the Mucous Membrane of the Nose.—When Schulz (p. 23) applied a little of the concentrated solution of Aconitine to the mucous membrane of a dog's nose, the vessels became strongly injected; the membrane reddened and stimulated to increased secretion. The animal began to sneeze; turned his head hither and thither; licked its nose; rubbed it with its paws; breathed deeply and brokenly. The symptoms disappeared after a few hours.

g. Application to the Eyes.—When Fleming (p. 110) applied a minim of Aconitine, mixed with fat, to the eye-balls of rabbits and other animals, the pupil began to contract about three minutes after, and, after five minutes, was scarcely one-sixth part as large as that of the other eye. Where the contraction was strongest, there was no reaction upon the irritation of light; if the contraction, however, were not perfect, the pupils preserved their mobility. The contraction generally continued nine hours.

Hoppe (Nervous Action of Remedies, Vol. I., p. 148) instituted experiments on frog's eyes, which had been recently taken out, as well as upon the eyes of living frogs and rabbits, by means of the direct application of Aconitine, or of the extract of Aconite, for the purpose of determining the action of this substance upon

the nerves and other structures of the eye. As the result of six experiments, he tells us: That Aconite, even when a strong application is made to the eye; causes, only in a moderate degree, decrease of sensibility, dilatation of the pupil, and injection of the vessels of the mucous membrane of the lids of the conjunctiva and subconjunctiva, or of the iris, and that, with the exception of the first time it was used, it caused no pain.

Schulz applied some solution of Aconite to the mucous membrane of the eye-lids of a dog, and it closed the lids at once, and rolled the eye-balls. The eye-lids were also much reddened, and a great deal of watery mucus was discharged. There was also dilatation of the pupils and blepharospasmus. Similar symptoms were observed in a cat, only not such intense chemosis as in the dog.

h. Application to the Heart.—The trials which come under this head, were made by applying the substance to the various parts of the heart which was laid bare immediately after killing the animal. In one experiment of the kind by Fleming (p. 110), the right auricle yet vigorously beating, the heart was lightly rubbed with a solution of Aconitine. At the expiration of two minutes, the contractions of the auricle to which the application had been made, became weak and imperfect, and, in eight minutes, ceased entirely, while the other cavities of the heart continued their contractions from fifteen to twenty minutes.

In another case, the heart of a dog having been exposed, contracted very violently; half a grain of Aconitine, dissolved in half a drachm of water, was injected into the heart through a slit made in the vena-cava superior; the contractions at once became weaker, in half an hour almost ceased, and, at the end of an hour, the heart, with the exception of some irregular vibrations in the auricle, was perfectly still. Five minutes later it could be pricked in any part of it, without being followed by the slightest contraction.

Arnold (Hygea, p. 13) experimented upon frogs' hearts. Ten minutes after the heart had been laid bare, the number of beats was fifty; half a grain of the extract of Aconite, which had been dissolved in five drops of water, being applied to it immediately after, the number of pulsations, five minutes later, was 65; ten minutes after the application, 42; and, fifteen minutes after, 45.

Arnold also observed five or six very slow pulsations, which were followed by six or eight very rapid ones. During the last twenty-four hours, the number of the heart's pulsations increased and diminished by turns. The remainder of the cases were very much the same; but, on the whole, ARNOLD's experiments in the direct application of Aconite to the heart, led to no positive result.

i. Various other Experiments.—ARNOLD laid bare the hearts of frogs, and then administered Aconite *per os.* In these trials, he observed, at first, an increase in the heart's action, followed by a gradual decrease in the number of contractions; this sinking seems, however, to have been so gradual that it can hardly be considered of importance, and probably does not differ much from the natural retardation of the heart's contractions after it has been laid bare.

In order to demonstrate farther, the capability of the action of Aconite to be conducted by the spinal cord, ARNOLD took out the brains of frogs, or cut through the spinal cord, or destroyed it altogether, and gave Aconite *per os.* He then found that (p. 22) Aconite, in spite of these disturbances, still exerted its effect upon the heart; the number of pulsations increased at first, while the decrease was very striking. ARNOLD concludes from this that the heart's action is not carried on by the brain, but through the ganglionic system.

FLEMING made several interesting trials, in regard to the neutralization of the poison of Aconite by the digestive fluid of artificial digestion, in the following manner (p. 114): He prepared, at one time, this fluid from the stomach of a rabbit, dissolved half a grain of Aconite in it, and evaporated the fluid to two drachms which he introduced into the cellular tissue of another rabbit. This animal died in half an hour, with the ordinary symptoms of poisoning; while the same quantity, administered in the same manner, proved fatal to a rabbit of the same size in a few minutes. The same was the result when half a grain of Aconitine had been dissolved in the digestive fluid, prepared from the fourth stomach of a calf. The rabbit, into whose cellular tissue this mixture was introduced, died in forty minutes, living thirty-six minutes longer than another, to which the same dose was given, and in the same way, but dissolved simply in water. In a third case, only one-twelfth of a grain of Aconitine, prepared with the digestive fluid,

was injected into the cellular tissue of a rabbit. For two hours, it was weak, restless, and stumbled; while the same quantity, dissolved in water slightly acidulated, and introduced into the cellular tissue of another dog, killed it in eleven minutes.

C.—On Vegetables.

As regards the action of Aconite on vegetables, Fleming (p. 113) found that stalks, if placed in a mixture of equal parts of the juice of Aconite root and water, withered and died much sooner than the same kind of stalks preserved in fresh water; nor did they revive if they were taken out of this mixture and placed in pure water.

CHAPTER III.

EVIDENCES OF POST-MORTEM EXAMINATIONS.

A.—On Men.

The examinations which have been made after cases of accidental poisoning by Aconite, are, for the most part, very deficient, and admit only of cautious conclusions.

Pallas (Cases of Poisoning, II.) found the œsophagus, stomach, and intestines red and inflamed, and the blood-vessels of the intestinal canal distinctly visible, particularly the veins which seemed injected. The inflammation was limited exclusively to the cœcum; the mesentery was likewise inflamed; the peritoneal cavity contained some yellowish serum. Lungs heavy, bluish, violet behind, slightly crepitating, and filled with blood; the pericardium contained an ounce of yellowish serum; the heart and great vessels presented nothing worthy of note; brain sound, but its vessels injected.

Baldriani found in the bodies of those poisoned by the juice of Aconite, taken instead of the juice of scurvy-grass (Case 16), the pia-mater and arachnoid highly inflamed, and considerable serous fluid at the base of the skull and beneath the arachnoid, but not in the ventricles. Lungs strongly congested with blood; the somewhat soft heart, and the great vessels, filled with a large

quantity of black blood. Liver and spleen normal; the stomach distended with wind, and containing a clammy, ash-colored fluid; its mucous membrane, at the greater curvature, injected; the remainder of the intestines, here and there, flecked with red, and containing the same fluid as the stomach.

PEREIRA (Poisonings of the Sick, No. 14) found, on making a dissection, venous congestion of the brain and lungs; congestion of the right heart, and hyperæmia of the liver and spleen.

The post-mortem of a girl, who died, after the use of Aconite, from icterus, disclosed: vessels of the brain congested with blood, but no extravasation into the ventricles; stomach covered with dark gangrenous spots. (A very deficient account, which does not mention the liver.)

The body of MCCONKEY, who was poisoned by his wife (*vide* Cases of Poisoning, 17), presented nothing pathologically or anatomically worthy of note, more than that there were a number of irregular brownish flecks on the inner surface of the stomach.

KOCH found in the case of poisoning, No. 28: Inflammation in the mouth, throat, stomach, and upper parts of the jejunum; remarkable congestion of the dura-mater and pia-mater; spots of blood effused beneath the arachnoid; congestion of both lungs; effusion of thin blood in the left pleural cavity, peritoneum, and pericardium; dark red, half fluid, foamy blood in the auricles of the heart; liver, spleen, and kidneys filled with blood.

The examination of Case 31, *Lancet*, 1856, instituted two and a half days after death, showed the mucous membrane of the stomach at the cardiac extremity, and the greater curvature, to be of a chocolate color, studded with numberless points of blood; the contents of the stomach small, of a viscid consistency, and of a reddish color, and containing also pieces of Aconite root. Brain and other organs sound.

B.—On Animals.

The experiments of ORFILA, give, as far as the pathological and anatomical changes which were observed in the bodies of the animals poisoned by preparations of Aconite, a very meagre result. In the great proportion of cases—namely, when the poison was introduced into the cellular tissue, or was brought by injection into the circulation—ORFILA found, "No change worthy of

note, no cause of death." In other cases, after internal administration, there was noticeable none, or only a slight trace of inflammation of the stomach and intestinal tract; but, on the other hand, always hyperæmia of the lungs, which were neither more nor less crepitant than in their normal condition, and which seemed flecked with rose-red, blood-red, or brownish-red spots In the heart he found the blood in the right ventricle, for the most part, clotted and black; in the left, fluid and of a high red color.

Gerstel found far more distinct and clearly-marked symptoms of hyperæmia and inflammation in all the organs of the animals poisoned by Aconite; this inflammatory condition affecting the lungs, the air-passages, the liver, together with the peritoneal apron and the brain.

Arnold also gave this hyperæmia of the lungs an important place; though he often observed strong congestion in the inner surface of the membranes of the brain, in the stomach, intestinal canal, and liver. The congestion in the blood-vessels affected the arteries as well as the veins, though more particularly the latter; this was particularly true of those of the liver, the stomach, and the intestinal canal. The hyperæmia generally partook of a venous character; the blood in the arteries had also a dark color. The coagulation of the blood, in both kinds of blood-vessels, and the abundance of the coagula, struck him most forcibly.

Fleming also found the right heart and its neighboring vessels filled preferably with black coagulated blood, and, after the internal administration, also found the intestinal tract injected; the brain was seldom affected. Neither Fleming nor Orfila found the places where it had been introduced into the cellular tissue inflamed or reddened.

Schroff gives us the following accurate account of the post-mortem appearances in the animals which were poisoned by him with Aconite:

"Stomach swollen, almost to bursting; its inner membrane, after rinsing with cold water, much wrinkled; its mucous layer easily removeable. The mucous membrane at the fundus, and at the cardiac orifice, of a glistening brown: towards the borders of the orifices of a dark and light red color. Under the microscope, the yellow patches were found to be, in part, gland-cells; in part, ramifications corresponding to the course of the vessels, in

which could be observed blood-corpuscles, isolated or crowded together into a brownish mass, the gastric follicles normal; the glands of the liver, in the darker spots, of a yellow color. The pyloric portion of the stomach normal; the intestines, from the jejunum, tightly distended—partly with air, and partly by a thickish, cream-like, yellowish-white exudation, which was the more tenacious the lower down it was. The mucous membrane and valvulæ-conniventes, all over finely injected. Mucous membrane of the mouth, tongue, throat, and œsophagus nowhere injected. Liver and kidneys vascular; bladder, ovaries, and uterus normal. Bladder either empty or filled with urine of a natural character. The superior and inferior venæ-cavæ, and the right heart, filled to distension with thin, reddish-brown blood; auricle and ventricle injected to their finest ramifications; left heart empty; in one case, also filled with a similar kind of blood. Lungs contained air, of a rosy-red, normal; air-passages strongly injected; in the larynx foamy mucus. Membranes of the brain strongly injected; ventricles empty; choroid vascular. Cerebellum very vascular; membrane of the spinal cord strongly injected; the spinal cord itself normal; arteries of the optic nerve injected."

Schulz (*l. c.*, p. 18) has very carefully made dissections of the animals poisoned by him with Aconite, and has compared and placed together the results, according to the different kinds of animals, with dissections of healthy animals made at the same time. He observed, as the principal conditions, hyperæmia and an inflammatory state in most of the organs, particularly in the brain, spinal cord, lungs, liver, intestinal canal, and kidneys.

Professor K. D. Schroff has lately instituted a series of new experiments upon men and animals with Aconitine, the object of which was, more particularly, to compare the action of several species of Aconite, and of preparations obtained by different chemical processes (*Journal für Pharmakodynamik*, I., 3, 1857). These trials were made: first, with Aconitium-ferox, Wall., which the author had received in London, through Martius and Royle; second, with the English pure Aconitine, prepared by Morson; third, with Aconitum-anthora.

"Trials of Aconitum-ferox and Morson's pure Aconitine: The root with which the trials were made, is, according to Wallich, furnished with two or three fusiforum fleshy tubers, 2–4″ long; white inside and black externally. The specimens received from Martius were of two varieties, the light and heavy, of which a detailed account is given. The plant is indigenous to Himalaya, and varies very much according to its locality; beyond the snow limits it is much more vigorous. The trials were made upon dogs, and upon a healthy man, partly with the powder of the specific light and heavy root, and partly with the alcoholic extract prepared from them. Morson's Aconite differs materially from that prepared by Geiger and Hesse.

The first is a gray powder, of a peculiar smell, reminding one of carbol acid. A minim, laid upon the tongue of the author, and the same upon the tongue of another person who assisted in the experiments, caused an intensely astringent taste, followed by a peculiar after-taste, reminding one of Castor, which was succeeded by a violent pricking and burning in the palate, and, later, in the lips. The sense of taste was somewhat weakened, nor did the burning disappear till the following day; no objective alteration was perceptible in the tongue; in the mucous membrane of the eyes and nose it produced violent irritation, and produced in the skin a sensation as if ants were creeping over it, an effect which did not follow the use of the German preparation. Chemically pure Aconitine is, on the contrary, perfectly white, without odor, has a bitter taste, and leaves behind it no sensation of burning or pricking. A second quantity of English Aconitine, which the author received, was white, with a clear streak of yellow. The English Aconitine displayed somewhat less of an alkaline reaction with vegetable coloring matter than did the German; it is sparingly soluble in cold water, in hot water somewhat more soluble; the solution yielded, with the tincture of galls, a slight, light brown, flocculent precipitate, which was soluble in alcohol. The English Aconitine is much less soluble in alcohol than the German; in concentrated sulphuric acid the English Aconitine dissolves very easily, and in dissolving becomes of the color of gamboge, the solution is clear, and after twenty-four hours becomes colorless, while the German Aconitine, with sulphuric acid, yields an opaque, dark-brown, and, later, reddish-brown solution; the other reactions are like the German Aconite. A comparison of the properties of the English and the German pure Aconitine, furnishes evidence of the great difference between the two, and explains the contradictory opinions of the English and German experimenters in regard to the degree and kind of action—the two preparations being wholly different substances. In the first experiment, made with English Aconitine, 0.065 gramme, produced death, in a rabbit, within nine minutes; in the second, an apparently pure preparation, 0.01 gramme, within six; and, in the third case, 0.008 gramme, in four minutes; while 0.4 gramme of the German Aconitine did not produce death, and even 0.8 gramme did not kill the animal till after twenty-four hours. Further, Morson's Aconitine produced, by its influence on the medulla-spinalis and oblongata, the most violent convulsions, and, in the shortest time, through paralysis of the heart and the muscles of respiration, death. The coagulability of the blood was diminished and even destroyed. There were no clearly-marked narcotic symptoms, perhaps on account of the quick course of the intoxication; while Hesse's Aconitine, in sufficient doses, produced numbness, though generally no convulsions. Smaller doses of the English Aconitine produced breathlessness, which, though not so great, continued several hours, but did not kill, however, so long as there were no cramps. Inclination to sleep was observed in those cases which did not terminate fatally, only to a limited extent.

"Comparing now the results of the trials with Aconitum-ferox with those arising from the use of the English Aconitine, we find a striking similarity, and the differences that exist are owing to the symptoms of the last being crowded into a short space of time, when it was administered in fatal doses. It is therefore very probable that Morson obtained his preparation from Aconitum-ferox. At all events, he has succeeded in demonstrating for himself the acrid principle belonging to many species of Aconite which have blue blossoms, for such is evidently his preparation. Nevertheless, it did not produce real inflammatory symptoms in the gastric and intestinal membrane. The acridity manifested itself only in the troublesome burning sen-

sation in the tongue and in the soft palate, and in a strongly marked increase in the secretion of saliva and urine. The idea of PEREIRA, that the spirituous extract of Aconitum-ferox possesses an activity equal to that of Strychnine, is true, more particularly in respect to the degree of virulence (though, so far as this is concerned, Strychnine is much more powerful), not in regard to the manner of its action.

"It is evident, from the experiments instituted by our author with the preparations of Aconite above named, that, as had been already demonstrated by previous investigations, the chemically pure Aconitine is the vehicle of the narcotic properties of Aconite, while the acrid principle of the plant is, on the contrary, represented by MORSON's Aconitine; that the latter not only surpasses the first by far in the intensity of its action, but differs materially from it in character (though, in a certain respect, it agrees with it); that Aconite is active and poisonous according to the quantity of the acrid principle which it contains, as experiments before instituted by the author have shown that, among the inland blue-blossoming species of Aconite, Aconitum-variegatum together with Aconitum-cammarum and paniculatum, contain much less of the acrid principle, and are far less active in their operation than Aconitum-napellus with its sub-species, Aconitum-neomontanum, tauricum, and variabile. This is still more conclusively demonstrated by the experiments upon men and rabbits with the extract of the root (also with the plant), with Aconitum-anthora (an account of which, with its natural history, is given in detail). It was shown, among all the varieties of Sturmhut which had hitherto been proved, that Aconitum-anthora was the mildest in its action, that it was deficient in the acrid principle, and contained only in a moderate degree the benumbing narcotic property, which is proved by the pure bitter taste and the absence of any sensation of sharpness and burning in the tongue.

"The experiments which the author instituted with the Napellus received from MERK, show that its action is not materially different from that of the German Aconitine. The author concludes that the roots differ very much in the activity of their action according to the various periods of vegetation: as, for example, the extract prepared from the root of Aconitum-neomontanum, which was gathered in August, exceeded at least three-fold in strength that prepared from the root which was gathered in October; the proof being still the more conclusive that the difference of the two extracts was easily perceptible to the senses. The extract prepared from the October root was without sharpness and only bitter, that obtained from the August root had a very acrid and burning taste; gastro-enteritis was produced by the first, the latter preserved unaltered for many years its activity and those characteristics which were appreciable to the senses."

PART III.

PHARMACODYNAMIC VIEWS.

AND

GENERAL THERAPEUTIC INDICATIONS.

CHAPTER I.

Opinions of Physicians not of the Homœopathic School.

Every pharmacodynamic decision in regard to the *modus operandi* of a medical remedy is based upon two factors; namely, on the observation of its physiological action, or the physiological interpretation of all the symptoms which have occurred, and on the pathological and anatomical changes which are found to exist on one hand, and on the other upon the critically recorded experience obtained by the bed-side of the patient. In proportion as one of these factors is taken as a basis for an opinion to the greater or less exclusion of the other, a one-sided pharmacodynamic view is the result, which is so much the more vague, valueless, and hypothetical the less the measuring-staff of sound criticism and physiological explanation according to natural laws, is employed.

Would we examine the various views which medical writers have held, up to the present time, in regard to the manner of action of Aconite, and which they have formed in regard to its therapeutic indications, we must, if we pursue our investigations in a logical manner, go hand in hand with the history of this remedy; since the factors which we have just mentioned, as the foundations of such views and indications, have been regarded differently at different times,—have shaped themselves from rough outlines to distinct forms.

The first seventeen centuries of our history we may pass over almost without mention, as during that time the ideas as to the virulence of Aconite were vague and extravagant—nothing further being known of it, nor was it valued therapeutically—and begin with the period of STÖRCK, as the moment when both the factors of physiological proving were united in value, and from them was formed the first pharmacodynamic view of Aconite.

From the physiological trials which STÖRCK made upon himself, he came to the conclusions (*cf. l. c.*, p. 304):

"1. That Aconite promotes perspiration and sweat.
'2. That, in cautious doses, it may be administered without harm."

But, before he proceeds to trials at the sick-bed, he deduces from these physiological actions the general therapeutic indication

"That Aconite is of service in those diseases in which waste and acrid material is to be eliminated by the sweat."

The only forms of disease in which STÖRCK regarded these waste and acrid matters as the causes, and in which he accordingly made use of Aconite with success, were gout, rheumatism, inveterate intermittent fever, syphilis, and glandular indurations. Now, together with the physiological action, STÖRCK had recourse to the experience of the sick-bed, and from these two factors concluded (p. 324):

"1. That the extract of Aconite is innoxious, and thereby a very efficacious medicinal agent.
"2. It sometimes accomplishes, when given in small doses, what cannot be brought about by the strongest remedies, when given in large doses and for a long period of time.
"3. The acrid substance which gathers around the joints, sinews, and bones, which irritates the nerves and causes the most violent pain, is by this medicine dissolved, brought into the circulation, and is carried out of the system in the urine, by the bowels, the sweat, or the insensible perspiration.
"4. It softens indurated glandular swellings, nodosities, boils, and sometimes entirely disperses them.
"5. It diminishes and removes obstinate pains in the joints and in indurated parts.
"6 It sometimes purifies ulcers which are intractable to other remedies, and closes them with a firm cicatrix."

SPALOWSKY (*l. c.*, p. 17), STÖRCK's immediate pupil, adds to these general indications the following:

"Efficaciam quoque suam præter spem exserit in dolore fixo quocunque non inflammatorio, in ischiade, morbo coxario, chiragra, podagra, gonagra, in tumoribus durissimis et inveteratis glandularum, scirrhis, in scrophulosa

dispositione, in obturationibus mammarum, in arthritide et rheumatismo inveteratis, in anchylosi, exostosi, nodis, tophisque, in clavis venereis et aliis, ubi nec mercurialia nec alia laudatissima medicamenta ullum præstitere effectum: quandoque etiam prodest in amaurosi, nonnunquam et in cataracta."

"It has shown an efficacy altogether unhoped for, in certain fixed pains not inflammatory in their character, in ischias, morbus-coxarius, chiragra, podagra, gonagra, in indurated and inveterate glandular tumors, schirrus, scrofulous disposition, obstinate induration of the mammæ, arthritis and rheumatism, anchylosis, exostosis, nodes, concretions, in venereal and other headaches, in which neither Mercury nor other much-lauded remedies prove of use, and is sometimes useful even in amaurosis and cataract."

GREDING chose diseases which are regarded as incurable—such as epilepsy, &c.—upon which to try the healing power of Aconite. He attained, however, no particular result; for, as we have already shown, the primary symptoms observed in such patients during the use of Aconite are deserving of as little respect and confidence as the therapeutic symptoms.

COLLIN scrupulously followed his colleague STÖRCK, and made use of Aconite only in those forms of disease recommended by him; his experience was of such a character that he was enabled to say:

"Propria experientia me docuit, omnes, qui Aconito utuntur in morbis, in quibus illud commendavit magnificus STÖRCK, summam in his morbis curandis felicitatem experiri debere."

"My own experience has taught me that all who employ Aconite in those diseases for which the renowned STÖRCK recommends it, have reason to expect the happiest results in curing those diseases."

And adds:

"It is of value in all those diseases in which viscid lymph causes obstructions."

GESNER (Sammlung von Beobachtungen aus der Artzneigelehrtheit, 2 Aufl., Nördlingen, 1771, p. 196) was not so happy, who, among many cases of pain in the limbs, where it was of no service, saw only two in which it was used with success. Although his doses often amounted to six grains daily, he saw "No ill effects, no indifferent effects, but also no approach to an amelioration."

OETERDINGER (Anleitung für das Landvolk in Absicht auf seine Gesundheit, Zurich, 1773) ascribes to the extract of Aconite a peculiar power of dissolving the thickening juices, and of restoring to the external surface the suppressed moisture; in

diseases of an inflammatory nature, those cooling remedies which are of use in these diseases must also be employed.

In Halle, as ANDREE's dissertation informs us, Professors BÖHMER and JUNCKER used with success the extract of Aconite recommended by STÖRCK, and according to his own indications. The dissertation in question treats "Of the Salutary Use of the Extract of Aconite in Arthritis," and on p. 20 the author attempts "To compare the properties of Aconite with the causes of arthritis," and arrives at the conclusion that Aconite, by virtue of its resolvent power, its influence in promoting the secretions, its power in diminishing the strength of nervous action, destroys that thickening of the humors which exists in gout.

In like manner REINHOLD expresses himself in his "Dissertation on the Curative Action of Aconite," p. 41, where he says:

"Extractum est primario penetrans, leniter irritans, potentius incidens, resolvens, secundario diaphoreticum, sudoriferum, diureticum, alvum solvens et anodynum. Erunt forsan qui, cum hæc legerint, me hujus extracti impudentem agere præconem, arguant, judicent. Absit omnino, ut illud tanquam specificum, adhuc minus ut omnipotens remedium fovere, aut proclamare pessime intendam, ægrius vellem. Interim tamen neminem fugere potest, et quam maxime veritati, si quid unquam in medicina practica, hoc consentit, quod Aconiti extractum præprimis facilius vasa quæque penetrando, spissitudines humorum, præcipue mucosam, resolvendo, fluidorum varias sordes et acrimonias ubique eliminando, tandem vires vitæ, sensus, motus et irritabilitatis nimis excitatas redigendo, imminuendo, spasmos et dolores cœrcendo, sopiendo vere et potenter agere possit et debeat, adeoque laudabile, securum, præsentaneum, plurimis conducens morbis componat remedium, quod omnino, ut sæpius et ulterius a medicis tentetur, adhibeatur, variis ægrotis præbeatur, meretur, et quidem eo magis, quum sat frequens illud exhibendi occurrat occasio, ratio et experientia illius usui faveant, hunc recto expostulent. Unde nullatenus timebo, fore ut ad nostrum Aconiti extractum unquam apte et merito quadrare possit adeo sæpius comprobata sequentis sententiæ medicæ veritas:

"'Multa renascuntur, quæ jam cecidere, cadentque
Usurpata modo medicamina, si valet usus
Et ratio, Medicis duo præstantissima doctis
Instrumenta, quibus quærunt, carpuntque docentque.'"

"The extract is primarily penetrating, mildly irritating, powerfully cutting, resolvent; secondarily diaphoretic, sudorific, diuretic, laxative, and anodyne. There will be those who, when they read this, will imagine and pronounce me an impudent trumpeter of this extract. Far be the idea that I am anxious that it should be regarded as a specific, much less as a universal remedy, or that I should wish to cry it unjustly. Meanwhile, no one can avoid the conviction, and this is as consonant as possible with truth, if ever any exist in practical medicine, that the extract of Aconite, by penetrating particularly every vessel, by resolving the thicknesses of the humors, especially the mucous, by eliminating everywhere the various corruptions

and acrimonies of the fluids, finally, by regulating and lessening the too much excited powers of life, of sense, motion, and irritability, by repressing spasms and pains, and by quieting them, it ought to, and can act effectively and certainly, and so desirably, so safely, so speedily, that it furnishes a remedy of use in very many diseases, and is wholly deserving of more frequent and thorough trials by physicians, and that it should be employed in various disorders, and this the more since there is so frequently occasion for exhibiting it, reason and experience favor and rightly demand its employment. Wherefore I shall never fear that it will happen that the truth of the following medical sentiment, too often quoted, can ever apply justly and fitly to our extract of Aconite:

"'Much that has now fallen into disuse will be restored, and medicines now much in use will be abandoned, if use and reason prevail—two most excellent instruments to learned physicians, by which they investigate, discriminate and teach.'"

And this prophetic declaration of REINHOLD is indeed fulfilled!

In the materia medicas, from the close of the last century to our own time, there is not much to be found upon the pharmacodynamia of Aconite.

SPIELMANN (Inst. Mat. Med., Argent., 1784) regards (p. 503) Aconite as among the soporific plants, on the strength of the statements of several authors "who have known cases in which soporific effects have been produced by it."

LÖSECKE (Materia Medica, fifth edition, 1785, p. 475) considers Aconite discutient and resolvent.

ARNEMANN, (Prakt. Artzneimittellehre, 4 Aufl., p. 256) reckons Aconite among the remedies which promote perspiration; but, at the same time, regards it as one of the acrid vegetable poison, and also calls it narcotic.

MURRAY (App. Med.) does not trouble himself to attempt to explain the manner of action of Aconite, but mentions simply the various forms of diseases in which Aconite was employed in his time, with or without success.

RICHARD (Pharm. Botanik, II., 1019), is of the opinion that Aconite acts preferably upon the nervous system of the abdomen, lessening its irritability and promoting the activity of the lymphatic system, of the portal vein, and increasing the secretions of the urine and skin.

JAHN (Praktische Mat. Med., Erfurt, 1807, I., p. 41) says: "We possess in this plant a powerful, though poisonous remedy, which takes a place among the first of the stimulating resolvent remedies. The narcotic power which it possesses is also remarkable. Employed for a long time, it not only weakens the stomach, but pro-

duces injurious effects upon the nervous system. The diseases in which above all others certain help may be expected from Aconite, are: rheumatism, gout, syphilis, chronic diseases of the skin, goitre, scrofula, and consumption.

SCHNEIDER (Outline of a Materia Medica for Psychical Diseases, Tübingen, 1824, p. 278) is of the opinion that Aconite may be classed among the narcotic remedies, and may be employed in many forms of mental derangement.

VIRGTEL (System of Materia Medica, by Kühn, II., 2, 318) ranks Aconite among the narcotic substances, gives a hasty review of the physiological action according to HAHNEMANN and others, and mentions, as general therapeutic indications: an abnormal condition of nervous activity, excessive irritability which must be restrained, and activity of the veins and lymphatics which must be increased; it also has a specific effect upon the action of the skin, as much as Digitalis has upon the action of the kidneys.

A. F. HECKER (Practical Materia Medica, fourth edition, I., 569) mentions, as the principal effects of small doses: activity of the secretory processes of the skin, kidneys, and lungs, and draws a parallel between its action and that of Digitalis.

SUNDELIN (Handbook of Special Mat. Med., Vol. II., p. 159) treats of Aconite very much in detail, but makes decided mistakes in relation to its influence upon the action of the heart. He says:

"It is evident, from the physiological effects that have been mentioned that Aconite has a stimulating effect upon the sensitive and vascular system, arouses its sensibility and excitability, and above all stimulates the secreting activity of the skin, kidneys, mucous membrane, and of the sinews and muscular sheaths, of the synovial membranes and periosteum, and in general accelerates and promotes the change of matter and the process of fluidization.

"It possesses a far higher degree of activity, though far fewer narcotic properties than belong to Hemlock and Belladonna; it is destitute of the depressing influence upon the pulse and the exciting influence upon absorption which Digitalis possesses. It is wanting in the paralytic properties of Tobacco, though it has much in common with it."

In respect to its general therapeutic indication, JAHN says:

"It is generally indicated in diseases which arise from suppression of secretions at the peripheries, and which become obstinate from long duration, as well as in chronic affections of the fibrous coverings and structures of the sinews, muscles, and nerve sheaths of the periosteum, in concertions

and swellings in their structures. Finally, in nervous affections of a paralytic character, which proceed from local, metastatic, rheumatic, or arthritic affections of the nerve-sheaths."

The contra-indications are: Inflammation (?), hypersthenic fever, great sensibility and irritability (?), gastric affections, tendency to exhausting sweats, congestions to the head, breast, and the like.

Great as were the expectations with which we consulted the pharmacodynamic work of VOGT (Lehrb. d. Pharmacodynamik, fourth edition, II., p. 252) for the purpose of obtaining some ideas as to the manner of action of Aconite, so much were we disappointed, and so little of benefit did we find. VOGT also limits himself to the meagre excerpts of STÖRCK and his immediate followers, calls Aconite an acrid narcotic poison, admits that it promotes perspiration and has a sedative influence—the latter being the result of diaphoretic action,—and says that some slight disturbances of the digestive process, with bilious symptoms, set in after its use.

Formerly, as we see, too little stress was laid upon the physiological interpretation of the symptoms obtained through physiological provings, while the curative action was too much regarded: we find an exception to this only in VOIGTEL, who, regarding the "Fragmenta de Virib Med. Positivis," gives its general indications. The more, however, within the last ten years, experiments have been instituted by physicians not of the homœopathic school, the clearer have become the views entertained in regard to the manner of action of Aconite.

So PREVOST and LOMBARD (*Gaz. M d. d. Paris*, Oct. 10, 1835) regard it in its action as affecting particularly the heart and circulatory system, and LOMBARD particularly maintains that Aconite possesses a sedative influence upon the contractions of the heart, which did not in a single instance act very strongly. As general indications, he mentions inflammatory diseases in general, and organic degenerations of the heart and greater vessels, and particularly he claims for Aconite a specific power against acute rheumatism affecting the joints.

He is followed by KINDERVATER (Hannoversche Annalen, II., Hft. 6, 1841), who not only rejects the old contra-indications, inflammatory complaints, the general and commonly-received indications for the use of Aconite, but also regards them as indi-

cations for its employment. The nearer each inflammation approaches a phlegmonous character, and calls for antiphlogistic treatment, and the more apparent are the signs of a rheumatic tendency, so much more will Aconite be found to afford relief.

Fleming devotes a chapter exclusively to the *modus operandi* of Aconite (p. 50), and maintains that it acts by direct transmission to the organs by the blood; first, because in the experiments which have been instituted, absorption of the poison has taken place with great rapidity; second, because the rapidity and intensity of its remote effects are in proportion to the absorbent powers of the part to which it is applied.

On page 26, Fleming mentions the various organs and systems which have a sympathetic relation with Aconite, as follows:

"1. On the cerebo-spinal system: primarily, by its direct or specific action when conveyed to it by the blood; secondarily, by its sedative action on the circulation, and thirdly, by the venous stagnation produced in the vessels of the brain and spinal cord.

"2. The muscular system. In this Aconite is a direct and powerful sedative.

"3. The vascular system. Aconite has a directly sedative effect upon this system.

"4. The respiratory system. Aconite lessens the number of respirations, and later produces a congestive condition.

"5. In the alimentary canal it produces, in small doses, no bad effects, only in larger doses by virtue of its

"6. Action on the secerning skin, the secretions of which are increased by Aconite, and in which by means of it a congestive condition is produced."

With regard to their physiological effects, Fleming calls Aconite a mighty antiphlogistic, indicated in great excitement of the circulation, but contra-indicated in depressed conditions of the same produced by mechanical means, and in great prostration—as for example, after blood-letting. Further, it is indicated in inflammatory diseases of the respiratory passages, in spasmodic asthma, but contra-indicated in advanced stages of bronchitis and pneumonia with excess of secretion. It is also a sedative to the nervous system, and consequently indicated in all kinds of neuralgia, and still further in organic diseases of the heart and great vessels, in acute and chronic rheumatism, and in various diseases of an inflammatory character.

Flechner and Schneller conclude, from their trials made upon sound men, that the extract of Aconite seems to affect the mucous membrane of the digestive organs by reason of its acridi-

ty, to produce congestion in the brain, and to promote the activity of the vascular system, and that it also has a relation to the sero-fibrous system.

Schroff, as we have seen, turned his attention more particularly to the difference between the effects of the extract of Aconite and Aconitine, and regards the action of the extract rather as that of an acrid narcotic, and of Aconitine as that of a pure narcotic poison. No author speaks in higher terms of the diuretic properties of Aconite than Schroff, and no one made out so clearly before him its specific action upon the nervus-trigeminus.

In respect to its therapeutic indications, Schroff (*Wiener Wochenblatt, Ztschrft.*, of the Royal Imperial Society of Physicians) says that the employment of Aconite seems particularly appropriate in those cases in which the object is to lessen the increased action of the heart, and therefore in hypertrophy of that organ, in aneurism of the aorta or other great arteries, as long as there is an indication in this disease to diminish the activity of the heart as the motive organ, thence in the first stage of the disease in robust, well-nourished subjects, or when the freedom of the circulatory organs is restricted by extravasations in the pericardium or thoracic cavity. Aconite is suited also, though always in larger doses, to collections of serum in various other cavities.

Van Praag, who like Schroff held Aconitine in high estimation, recommends its employment, in regard to its therapeutic relations, not as an antiphlogistic, but only in delirium and mania from over-excitement, in violent convulsions, tetanus, trismus, chorea, spasmodic asthma, &c.

Eulenburg calls Aconite—in consequence of his experiments with Aconite, instituted in view of his theory of disintegration—a remedy which promotes the disintegration particularly of the blood and urine, and regards it as applicable in all those diseases which depend upon the cessation of disintegration, to which class of diseases gout and rheumatism may be regarded as belonging.

In addition to this, he claims for Aconite a particular relation to the parts about the neck.

Roy (*Revue Méd.*, Nov., 1854) has always found Aconite indicated in the first stage of eruptive fevers, where the capillary system was aroused and strongly injected, and the skin hot and dry; Aconite produced perspiration, not by any particular sudori-

fic properties, but by its sedative influence upon the vascular system. By virtue of the sedative effect of Aconite upon this system, Aconite has been employed with good results in dysentery, and also acts as a sedative in many cases of phthisis.

According to CERIOLI MARCELLO (*cf.* Literature), Aconite acts only as a contra-stimulus.

CHAPTER II.

VIEWS OF HOMŒOPATHIC PHYSICIANS.

"As there is almost no vegetable remedy except Opium, the primary effect of which commences with the development of heat, whose primary action consists of several alternations of heat and cold, and which acts, nevertheless, as powerfully in acute diseases.

"To this class of plants belongs Aconite. As its duration of action is very brief, and almost over in twenty-four hours, it may be easily understood that this plant can be of permanent use only in acute diseases, and will seldom be found applicable in chronic troubles."

These words of HAHNEMANN (Pure Mat Med., first edition, p. 216), constitute the point about which revolve all the pharmacodynamic views and general therapeutic indications of his disciples. As the greater part of acute diseases are of an inflammatory nature, it was natural, from this indication of HAHNEMANN, to employ Aconite in acute diseases, that the indication should be derived to employ it in inflammatory diseases. But some homœopathic physicians became divided in their opinions as to the employment of this remedy, part regarding Aconite as an antiphlogistic specific to all inflammations, and part deeming it of value only in certain forms of inflammation.

We give here the opinions of homœopathic physicians relative to this point.

SCHROEN, "Hygea," V., 97:

"Aconite not only supplies the place of the whole antiphlogistic apparatus of the antipathic school, with all its blood-letting, salts, mercurials, and fomentations, but is far superior to it, as well in certainty as (what is of great importance) in harmlessness. It has shown itself to be an indispensable remedy in all those cases in which, through violent reaction of the organism, there is added to the primary affections of a single system or organ a general febrile disturbance, which is manifested by precursory, often deep-seated, shaking chills, followed by local or general long-continued heat, hot, dry, red skin, quick, full pulse, bright eyes, violent, continuing thirst,

total loss of appetite, hot urine, restlessness, sleeplessness, exhaustion, more or less violent delirium, with distinctly marked paroxysms and remissions."

HEICHELHEIM, "Hygea," V., 203:

"In all phlegmonous inflammatory diseases, in which the arterial capillary system is more particularly affected, and the inflammation itself exhibits proportionate reaction of the vital power, Aconite is the specific remedy. The more distinctly marked in the given case is the increase of the arterial circulation, if it be limited by the affected organ, as for example in inflammation of the lungs and heart, or by the constitutional structure of the individual affected, so much the more certainly will Aconite prove a curative remedy."

GRIESSELICH, "Hygea," V., 216:

"Aconite has proved to me an irreplaceable remedy in acute diseases, marked by excessive and preponderating activity of the arterial system. Its operation upon the arterial circulation is unmistakeable; its reaction upon the nervous and lymphatic system easily authenticated from physiological principles. Aconite corresponds most to individuals with a predominant phlogistic tendency."

KURTZ, "Hygea," IV., 243:

"All that can be said, as I believe, of the character of Aconite, is limited to this: that it (the character) corresponds to that predominant activity of the arterial circulation,* either constitutional or brought about by disease, whose highest development denotes a general inflammatory diathesis. All diseases which arise from this diathesis, or which are united with it, are peculiarly suited to the use of Aconite, which seems to have no direct relation to any special organ."

In his "Medic. Jahrbuch," IV., 465, the same author says:

"Perhaps Aconite acts specifically in synochal fever, by diminishing the excess of fibrin in the blood."

LOBETHAL, *Allg. Hom. Ztg.*, XIII.:

"Aconite is a remedy which has the power of directly allaying the storm of the blood, when roused into an inflammatory condition, and therefore supplies the place of the antiphlogistic apparatus of the old school."

GOULLON, "Archiv von STAPF," XIX., 1:

"The true working sphere of Aconite is the inflammatory irritation of the vascular system; relief follows generally with general perspiration, and, in children, often with critical epistaxis."

RAU (Organon der Spec. Heilkunde, p. 344) recommends the use of Aconite in inflammations of the parenchymatose organs, united with synochal fever.

WURM, "Hygea," IX., 53:

"I do not believe that Aconite merely allays the fever, in inflammation of the lungs, without producing an effect upon the inflammatory congestion;

* Literally, *arteriality*.

but, on the contrary, am fully convinced that the beneficial effects of this remedy in this disease are owing to the fact that it acts specifically upon the parenchyma of the lungs, and that this action is greatly assisted by the powerful influence it possesses upon the arterial blood-current."

Cf. "Hygea," XII., 29:

"If, in pleuritic infusion, the plastic material predominates, there is no remedy which serves a better purpose than Aconite. I have never observed that it acts upon the effusion itself, yet it should be given with the view of breaking up the fever."

Wolff, "Hygea," XVII., 436:

"Were we to confine ourselves rigorously to proofs founded on fact, we should conclude that the utility of Aconite in inflammations does not depend upon its specific relation to the totality of the inflammatory process, but only to one factor of it, the morbid movements of the blood and its stagnation. Nothing is more unsuitable than to oppose, without further ado, Aconite to every inflammation, because it is complicated with more or less fever, nor when a synochial fever, accompanying the inflammation, is the principal indication for Aconite, whose sphere is not limited to it."

Diez, "Hygea," XVIII., 253 and 254:

"I have repeatedly felt justified, on the strength of numerous observations, in declaring that Aconite, regarded as a universal antiphlogistic—that is as a remedy corresponding to the first stage of inflammation—as such, and apart from its various modifications, occupies the foremost rank among all medical plants which have been proved up to the present time. At all events, it may as such take the first precedence of Nitre."

Meyer, *Hom. Vierteljahrsch.*, I., 390:

"Aconite's sphere of action is manifested principally in the ganglionic system, and exercises here its special influence upon the nerves of the capillary vessels, exciting fevers, congestions, and inflammations. It is subordinate in its action to the apparatus of the motor nerves, where—apparently in consequence of congestion—it sometimes excites convulsions and a paralytic condition. In the sphere of the sensory nerves, it increases, on the one hand, their activity, and calls forth a great variety of painful sensations, and, on the other hand, depresses their sensibility till it reaches total extinction. On the central nerve-fibres, or upon the mind and disposition, it produces an elevating effect, producing depression only in its reciprocal action. For the rest, it seems to have a special relation to the secretion and separation of the bile."

H. G. Schneider, "Handbuch der reinen Pharmakodynamik," I., 39:

"The positive, as well as the negative symptoms of Aconite point, above all, in the clearest manner, to a profound affection of the life of the vessels. As in the negative symptoms, this exhaustion of the vitality of the circulatory apparatus is seen even to asphyxia and cyanosis; so in the positive, excitement of the same, amounting to synocha, and active inflammation and arterial hæmorrhages, shows the preponderance of the arterial action.

"This profound affection of the whole organism corresponds also to the mental symptoms, particularly to the positive side. The higher psychical

nerve-life is far less affected in degree and extent than the vegetative, and the symptoms arising from it are, for the greater part, of that character that we must feel inclined to believe them derived from secondary symptoms.

"The positive and developed disease produced by Aconite bears also the character of pure hypersthenia, and, in accordance with homœopathic principles, shows us the fitness of Aconite as a pure genuine antiphlogistic; while the negative development shows us the asthenia driven to the highest point, and demonstrates the propriety of employing Aconite as a remedy in extreme cases of paralysis of the capillaries, as in cholera, asphyxia, and cyanosis.

"The principle forms of the condition produced by Aconite are:

"1. Synocha and inflammation; arising from primordial irritation of the nerves of the central vessels, which stands in opposition to exanthematous and traumatic irritation, which proceeds from original irritation of the nerves of the vessels of the periphery.

"2. Rheumatism; that is, those congestive or inflammatory painful affections of the joints, muscles, or sensory nerves which arise in consequence of cold.

"3. Gastroses; also with predominant affections of the liver, amounting to jaundice.

"4. Paralysis of the nerves of the blood-vessels, as in cholera.

"5. Convulsions; but we regard all kinds of convulsions as consecutive, proceeding from anæmia or hyperæmia, in the centre of the higher nerve-life.

"6. Paralysis in the sphere of the physical nervous system."

PART IV.

THERAPEUTIC EMPLOYMENT OF ACONITE.

CHAPTER I.

Its Employment by Physicians not of the Homœopathic School.

A. DISEASES OF THE CIRCULATORY SYSTEM.

I.—*Diseases from Disturbances in the Distribution of the Blood.*

1. *Amenorrhœa.*—West (Archiv Génér, Aug., 1835), from the circumstance that he saw, in Vienna, in the case of two women who were suffering with rheumatism and menostasia, not only the rheumatism disappear, but the menses return after the use of Aconite, was led to make further trials of it. His trials were attended with such favorable results that he felt justified in concluding: That Aconite has no specific relation to rheuma or to phthisis, but has a sedative effect upon the uterus, &c., and therefore that its employment is not called for in acute inflammatory congestions of this organ, but rather in amenorrhœa, dependant upon a spasmodic condition or upon chronic congestion of the uterus.

2. *Hæmorrhages.*—Blom (Proceedings of the Royal Academy of Sciences) cured in eleven days, of both complaints, a woman, sixty years of age, suffering with uterine hæmorrhage and ischias.

Lieutaud (Inbegriff der ganzen Med. Praxis, II., 317) also recommends Aconite in flooding.

Behrends praises Aconite in metorrhagia dependant upon rheumatism, which is liable to return after every slight cold (*cf*

SUNDLIN, "Spec. Heilmittelehre," II., 161). DE MAN says in relation to it, p. 47:

"Alia ratione in affectione uteri illud adhiberi cupit. A. DUMAS propter sympatheian nempe, quæ adesse videtur in feminis inter fauces et uterum, et propter Aconiti vim peculiarem in fauces, proposuit eo uti in doloribus uteri. Dicit se observasse, uterum levari, quando fauces Aconiti vim perciperent, quum contra, ubi parum agit in fauces, ibi etiam parum utero levaminis affert."

"He wishes it to be used, upon other grounds, in affections of the uterus. A. DUMAS, on account of the acknowledged sympathy which is seen to exist, in females, between the fauces and uterus, and on account of the peculiar influence it has upon the fauces, proposes its employment in uterine affections. He says that he has observed that relief was afforded the uterus when the fauces seemed to receive the force of the Aconite; but when, on the contrary, the fauces were but little affected, the uterus experienced but slight relief."

3. *Apoplexy.*—J. L. HANNEMANN (Med. Cog. Veget., p. 99) says:

"A most excellent remedy in apoplexy is found in Napellus, which may be numbered amongst the specific anti-spasmodics."

II.—*Diseases Affecting the Circulation and Changes of the Blood.*

1. Fever.

1. *Fever in General.*—LOMBARD, *Gaz. Méd. de Paris*, Oct., 1835:

"Given in doses of a few drops of the diluted tincture, Aconite has frequently been of great service to me, in lessening the fever, and limiting the inflammatory disposition."

MARCELLO CERIOLI (Dell' uso dell' Aconito-Napello nelle febri continue ed intermittenti irritative come surrogato al salasso ed al Sanguisugio. Piacenza, 1855. "On the Use of Aconite as a Substitute for Bleeding and Leeching in Continuous and Irritative Intermittent Fevers") calls Aconite, p. 68:

"Un generoso controstimolativo ad ottundere e spegnere le force flogistiche o disserrare in questi casi l'adito alla crisi."

"A powerful contrâ-stimulant, capable of weakening and extinguishing phlogistic labor, and, in such cases, promoting the crisis of the disease,"

and recommends its employment in all fevers, particularly in continued rheumatic and irritative intermittent. He has prepared from the extract of it, a "Pomata Antiflogistica," composed of an ounce of ung. Saturinum, and a drachm each of extr. Aconiti, and ung. Mercuriale, which he uses by inunction, in painful inflammatory conditions, and even in internal affections.

2. *Febris Rheumatica.*—According to KINDERVATER, Aconite is particularly indicated in rheumatic fevers which have a synochial character, or erethismus, without local symptoms.

FLEMING (p. 66) employed Aconite, with the greatest success, in an epidemic fever, in 1843–44, and which was characterized by the unusual severity of the muscular and arthritic pains. Great relief was also afforded from the external application of the tincture.

3. *Febris Intermittens.*—STÖRCK (p. 308) cured, in nine days by the use of the extr. Aconiti, in a man, nineteen years of age, a case of quartan fever, of three years standing.

COLLIN tells us that his brother cured obstinate quartan fevers which resisted all other remedies.

ODHELIUS (MURRAY, p. 23) says:

"Aconite has acted as a discutient in leucophlegmatic swellings, remaining after obstinate intermittent fevers."

There are, also, several citations of LEBMACHER, in REINHOLD "Diss.," p. 29, SCHENKBECHER, in his "Diss. de Kinkina," p. 156, BERGIUS, in his "Mat. Med.," p. 483, according to which Aconite was employed, with success, in obstinate intermittent fevers. Later times do not recognize its employment in intermittent fever. Only very recently, MARCELLO CERIOLI, has strongly recommended the use of Aconite in intermittent irritative fevers. (See above.)

4. *Febris Typhosa* (*Pestilentialis*).—HERCULES SAXONIA (Tract. de Plica Polonica, Batav., 1600, Cap. 52) says:

"Audivi, fuisse medicum in Germania, qui omnes peste correptos curavit imposito pro vesicante Napello, eo scilicet virulentiam omnem ad se trahente."

"I have heard that there was a physician in Germania, who cured all persons seized with the pest, by employing Napellus as a vesicant; this, as it were, drawing all the poison to itself."

More recently, GABALDA (*Bull. de Thér.*, Aug., 1847) seems to be the only one who has made a trial of Aconite in typhus; yet he did not see that it had any particular influence upon the disease.

2. Inflammations and their Sequelæ.

1. *Ophthalmia.*—LÖFFLER (Practical Truths and Experiences, Vol. I., p. 363) speaks in high terms of the application of a luke-

warm compress, moistened with a solution of two drachms of the extr. Aconiti, to Aqua Chamom, six ounces, as a very efficient remedy in chronic asthenic inflammation of the eyes.

Bron cured, in three days, a case of traumatic inflammation of the eyes—caused by burning with hot butter, with blisters on the face, and, in which the cornea had lost its lustre and become covered with a white pellicle—by means of the tincture of Aconite, in water, applied externally, and dropped within the eye. Alleviation of the pain, and sleep, followed immediately after the first application. *Vide Buellet. Médic. Belge*, Aug., 1840.

Cade (Revue de Thérap., 1856, No. 9, p. 229) strongly recommends Aconite as an antiphlogistic, in those inflammatory complications which are sometimes consequent upon the operation for cataract.

2. *Angina.*—Lombard:

"I have seen swollen tonsils, after using Aconite only once reduced in size in a few hours."

Kindervater expresses himself quite as favorably and Gabalda also witnessed the best results in this disease.

3. *Bronchitis, Pleuritis, Pneumonia.*—Gabalda praises Aconite, particularly in the bronchitis of infants. Kindervater, in simple cases of acute pneumonia and pleurisy, caused by suppression of the perspiration, after venesection had been first resorted to, administered the ext. Aconiti-siccum, alone, or in combination with the mixtura Salina Riveri, and had his Spiritus-anti-rheumaticus, consisting of the tinct. Aconiti, Camphor, Ammonium-causticum, and spirits, rubbed externally upon the breast. The manner of cure, says he, makes a repetition of the venesection very seldom necessary; brings about an early, thoroughly-formed, and strongly-marked crisis by the sweat and urine; destroys the process of the disease thoroughly and radically, so that, after the use of Aconite, there remains neither sensitiveness of the air-passages, tendency to catarrh and relapses, nor general prostration of strength. Inflammations of the lungs in children, according to the same author, particularly, are speedily resolved after the use of Aconite, with profuse perspiration; while the cough and other symptoms of pulmonary inflammation are alleviated, and, in a few days, recovery follows. Farther, Kindervater-

TER gave Aconite in a case of genuine croup, with reference to inflammatory and catarrhal affections of the air-passages, and particularly for the tendency to spasmodic cough which remains after influenza. Unfortunately, he administered it in conjunction with other, and not always indifferent remedies.

While LOMBARD always saw pure pneumonia quickly relieved by the use of Aconite, GABALDA witnessed but slight effect from its employment in this disease.

SCHROFF (*Weekly Journal*, of the Imperial and Royal Society of Physicians, at Vienna) gives a highly instructive and convincing case of pleuritis, with effusion in which the extract Aconitineomont, given in doses of a sixth to half grain, four times daily, brought about a cure, with strongly marked diuresis, in eight days.

4. *Carditis, Pericarditis Endocarditis Vitia-cordis et Vasorum.*—LOMBARD recommends Aconite, as a direct sedative to the heart, in hypertrophy of the ventricles and aneurism of the great vessels, but does not, however, give his own experience upon this point.

FLEMING (p. 67) speaks thus in relation to the employment of Aconite in diseases of the heart:

"In all those cases where the indication is clearly to diminish the action of the heart, Aconite, is a most valuable remedy. In functiona, derangement it will often be found, in conjunction with appropriate treatment in respect to diet, regimen, &c., equal to obtaining a complete cure. In certain cases of organic disease, its use is followed by great alleviation of the painful symptons. Where, however, it is really desirable to reduce the action of the heart, as in simple hypertrophy, functional disorder, &c., Aconite seems to be superior to Digitalis, and for the following reasons: Aconite is from the first, a pure sedative, while the depressing effect of Digitalis is alleged to be preceded by a stimulant action; and many bear testimony to the injurious effect arising from this excitement. Aconite acts more uniformerly than Digitalis, which, not unfrequently, fails to produce the desired effect; while its primary stimulant action is said occasionally to continue, without being followed by depression. The former operates more rapidly in the course of an hour or two, and its action can be maintained with safety by repeated small doses.

FLEMING also gives two cases of aneurism of the aorta, which were accompanied by neuralgic pains in the side, and in which Aconite afforded great relief.

5. *Gastritis and Enteritis.*—LOMBARD asserts that acute inflammations of the intestines have been stayed in their progress by the use of Aconite.

KINDERVATER also employed Aconite, given in conjunction with Opium, in a severe case of gastritis proceeding from cold.

6. *Panaritium.*—CASPAR SCHWENKFELD (Stirp. et Fossil. Silesiæ Catalogus, Leipsic, 1601. Lib. I., p. 143) asserts:

"That, as is shown by the trials of the rustics, the fresh root of Aconite, mixed with the scales of brass, cures panaritia, commonly called 'worm on the finger.'"

This is the only place we know of in medical literature which belongs to this division, and, in this case, some of the effect produced must be ascribed to the scales of brass—copper-filings.

7. *Perniones.*—FLEMING relieved very speedily, by the external application of the tincture, the inflammation and itching of chilblains.

III.—*Affections of the Secretory and Secerning Apparatus.*

1. *Dysenteria.*—MARBOT (*Bull. de Thér.*, Aug., 1849) saw, in an epidemic dysentery which broke out on board a ship, under the Torrid Zones, accompanied with violent inflammatory symptoms, speedy and effectual relief from the use of Aconite; the inflammatory action disappeared, and still more speedily disappeared the blood from the evacuations. Out of three hundred patients, MARBOT did not lose, under this treatment, a single one.

2. *Gonorrhœa.*—LEBMACHER employed, as is stated by HALLER (Hist. Stirp. Helvetiæ, p. 1198), a powder, composed of the extract of Aconite and sugar, in an old case of gonorrhœa.

SWEDIAUR employed it, with favorable results, in chronic gonorrhœa complicated with rheumatism.—DE MAN, p. 47.

3. *Exanthemata. a.* ERYSIPELAS.—GABALDA saw speedy relief afforded by Aconite, also in this disease. LISTON, however, seems to have been the first who made use of it in this affection, who says, in his "Elements of Surgery," p. 64:

"The employment of the extract of Aconite in erysipelas and other inflammatory affections, is often followed by so marked a decrease in the activity of the circulation as to render blood-letting unnecessary."

FLEMING (p. 76) made use of Aconite in several cases of ery-

sipelas, and gives a case at length. In another case of erysipelas on the leg, of six days standing, and with which there was severe inflammation, the pain abated after the first dose; disappeared entirely in seven hours, and in two days the disease was completely subdued. In another case of erysipelas on the arm, the pain was entirely removed in ten hours. In severe cases, FLEMING also recommends its external application.

b. PRURITUS.—FLEMING (p. 77) found Aconite effectual in removing the violent, troublesome itching which often accompanies skin-diseases.

c. EXANTHEMATA CHRONICA.—CAZENAVE administered as a principal remedy in chronic papular skin-diseases—as lichen, prurigo, &c.—the ext. Aconite, made into pills with ext. Taraxici. —BONCHARDAT, "Annuaire de Thérapeut.," 1851.

THOMSON employed Aconite with success in inveterate psoriasis; and we may here mention the recommendations of BRERA, BIETT, BARTHEY, DOUBLE and, TROUSSEAU in syphilitic exanthemata, and that of AVICENNA in lepra.

According to a statement of VOIGTEL (II., 2, 325), LAFONTAINE gives Aconite in plica-polonica.

DE MAN (p. 47) says:

"Writers say that in metastases of chronic exanthems, suppressed perspiration of the feet, and in other disturbances of the functions of the skin, and sometimes even in inveterate exanthemata, Aconite proves of more value than any other remedy."

4. *Hydrops.*—DE MAN, p. 49:

"The *Gallo-Franci* of to-day, regards the diuretic virtues of Aconite as higher and more certain than those of any other remedy. DECANDOLE relates that the rustic dwellers among the Alps use this plant in curing dropsy, and FOUQUIER employed it with benefit in passive dropsical diseases in our hospital."

5. *Excessive Perspiration.*—No remedy, says IMBERT GOURBEYRE, proves so efficacious in chronic universal sweat, or those profuse sweats which, in part, are idiopathic, and, in part, set in in consequence of various diseases proceeding from cold, as the ext. Aconiti, in strong doses of one-half to eight grains, twice a day, or the syrup of Aconite, in doses of two tablespoonsful daily. —*Gaz. de Paris*, Nos. 21 and 22, 1855.

IV.—*Affections in the Assimilation of the Blood and Nutrition.*

1. Ictus Insectorum Venenatorum.

As to the ancients, all poisonous substances were antidotal to other poisons, so do we also find Aconite recommended for the stings of poisonous animals.

"Napellus is highly extolled as an antidote to every poison, particularly to the bites of venomous insects," says ANTON GUAYNER (Opus Præcl. ad Praxin., Lugd., 1525). It is certain that he has borrowed from PLINIUS (Hist. Nat., Lib. XXII., Cap. II.), and THEOPHRASTUS (Hist. Plant., Lib. IX., Cap. XIX.), as PAULUS ZACHIAS (Quæst. Med. Legales, Amstelod., 1651; Quæst. IX., p. 30) has also borrowed from these, and the very same words.

2. Malleus Humidus—Ozœna.

A soldier, suffering with well-marked symptoms of chronic ozœna, with the formation of abscesses on various parts, took daily seventy-five centigr. of the extract of Aconite. A cure was effected in three months. In another case, the same remedy gave decided relief, but could not avert a fatal termination.—*L' Union*, No. 17, 1853. DECAISNE.

We call to mind here the recommendation of STAHL, given in the "Historical," who saw Aconite employed in worm-troubles of horses.

3. Scrophulosis et Tumores Glandularum.

STÖRCK's cases relate to swellings of the cervical and inguinal glands, and to those of the breast and the parotid; Aconite also effected cures in cases in which Conium had previously been employed without effect.

GREDING (p. 229) also cured three cases of chronic glandular swellings of the neck by Aconite, and KAMPF, (Act. Soc. Hass.) also speaks highly of the use of Aconite tincture, in ten-drop doses, in swellings of the cervical glands. We find no experience on this point of a later date.

JAHN, who never employed this remedy himself in scrofula, gives, in his (Special Mat. Med., p. 45), a prescription of STOLL for goître, which consists of Antimon.-crud., Guajak, and extract of Aconite.

4. Phthisis and Tuberculosis.

Busch (Recherches sur la Nature et le Traitment de la Phthisie Pulmonaire, Strasb., a. IX.) (Hecker *Journal der Erfindungen, Theor. and Widerspr.*, 1802) recommends the use of Aconite in the first stages of consumption, in doses of two grains every two hours, increasing the dose a grain every day, till the attacks cease or narcotic symptoms are observed.

Jahn says (Speciell. Mat. Med., p. 46), in relation to this method of Busch, that he has lately employed it several times in consumption with suppuration, and had seen it followed by the most marked success; and although, in advanced phthisis, he could do but little towards effecting a cure, yet he was able to render the condition of the patient supportable, and produce marked relief, particularly from the troublesome stitches and the dyspnœa of the chest.

According to Busch (Baumés on Consumption, from the French by Fischer, 1809, II., 115) and Hartel Du Frankel, at Strasburg, (De Man, 48) were more particularly the ones who praised the good effects of Aconite in incipient phthisis.

5. Syphilis.

Störck cured a patient suffering with inveterate syphilis by the use of Aconite (p. 321). The disease displayed itself particularly in tophi, which, by the use of Aconite, passed into suppuration, and got completely well.

Ofterdinger asserts that syphilitic induration of the testicle, of long standing, may, if the remedy be continued a long time, often be removed in the most gratifying manner.

Fritze (Med. Annalen, Vol. I., p. 327) prefers Aconite in inveterate lues to Mercury; and Thilenius has witnessed, in nocturnal pain in the bones, better results from Aconite than from Opium

Stöller (Observations and Experiences, p. 146) administers Aconite with confidence in syphilis, partly to prepare the body for cure by inunction, and partly during the same to promote perspiration.

6. Diathesis Purulenta et Febris Puerperalis.

Teissier (Bull. de. Thér.) ascribes as specific a virtue to Aconite in the purulent diathesis as to Tartar-emetic in pneumonia; but employs, at the same time, venesection to syncope. He also

advises its employment as a prophylactic, when, for example, during an epidemic of puerperal fever, there is fear of the disease being taken by lying-in women. Dose: four grammes of the tincture in twenty-four hours.

DUBOIS and GRISOLLES (*Gaz. des Hôp.*, 66–83, 1852) also obtained from the tincture of Aconite, in several cases of puerperal fever, decided and speedy recovery.

7. Ulcers.

STÖRCK saw, in several cases, obstinate ulcers healed by the internal and external use of Aconite.

8. Carcinoma.

In two cases of cancer, FLEMING (p. 76) saw great mitigation of the pain follow the employment of Aconite, which seemed here to act as an anodyne.

9. Rheumatism and Arthritis.

STÖRCK gives among his cases several of gout and chronic rheumatism, which were completely cured by the use of Aconite, though, in some of these, the joints were already in a condition of incipient anchylosis.

COLLIN gives three cases of gout, affecting the joints, which were cured by Aconite.

GESNER (Samml. von Beob., 2 Aufl., p. 106) cured, by means of Aconite, a tedious case of pain in the joints in a woman forty years old, and in a hysterical girl.

KÄMPF (Act. Soc. Hass.) has also found the tincture of Aconite very efficacious in gouty pains, and SAMM (Arthritic Diseases and their Cure, Basel, 1808) speaks in high terms of KAMPF's Aconite tincture.

As we have already mentioned, REINHOLD's and EHRHARDT's dissertations had particularly in view the curative power of Aconite in gout, and MURRAY has given the favorable results which have been obtained from the employment of Aconite in gout and rheumatism by ROSENSTEIN, ODHELIUS, HAST, RIBE, JODE, STOLLER, GMELIN, RAGOUX, and SCHENCKBECKER.

Two panegyrists in particular of Aconite are OBERTEUFFER, (*Hufel. Journ.*, IX., 3, p. 92) and BARTHEZ (Treatise on Gout, Vol. I., p. 116) who recommended it, not only in the most varied

forms of chronic rheumatism, but also in acute rheumatism of the joints, as well as in arthritis-nodosa.

LOMBARD (*Gaz. Méd. de. Paris*, No. 26, 1834) praises extr. Aconiti spir., six to ninety grains a day, as a specific remedy in acute rheumatism of the joints; it speedily allays the pain and swelling, as well as relieves the synovial effusion contained in the affected joints.

GABALDA also saw, in acute rheumatism of the joints, abatement of the fever and pain, and simple rheumatism without fever was cured by the essence of Aconite in three or four days; in chronic rheumatism its employment was followed by material relief.

SCHNEIDER (*Hufel. Journ.*, 1829, 2, p. 97) says: Aconite stands among the first of the narcotic remedies, in respect to the shortness of duration of its therapeutic effect; and any one who employs the extract in rheumatismus calidus, and does not give it in doses of two to three and a half grains every two hours, but much less frequently will (so costly a remedy is it in this disease) hardly accomplish much with it, and where there is danger of the rheumatism affecting the heart, it must be given in doses of a grain every hour.

CHAPP (*Journ. Génér. de Méd.*, XXIV., 136) gives four cases which he observed, in which rheumatism disappeared from the use of one-half grain of the extract during the day, increasing the dose to eight grains.

BUSSE, who devotes, in HUFELAND'S *Journal*, 1842, a special chapter to Aconite, is of the opinion, in regard to its good effect in rheumatic diseases, that it may be employed as well in chronic rheumatism and not attended by fever, as well as in inflammatory and acute rheumatism, only he wishes justice done to the antiphlogistic indications, and gastric irritation, if there be any, allayed.

Unfortunately, he never could refrain from mixing up some remedy with it, such as Nitrum, Antimony, Laurocerasus Guiacum, &c.

FLEMING also recommends the employment of Aconite in acute, as well as in chronic rheumatism. In relation to the former he says:

"Aconite not only effects a cure in a shorter period than any other mode of treatment, but appears to possess the great negative advantage of not in

creasing the liability to extension of the disease to the membranes of the heart. Indeed, it seems rather to protect the patient from that dangerous complication."

An accompanying table, in which are given twenty-two cases, principally from his own practice, of acute rheumatism with fever, shows how speedily Aconite can cure the most inveterate cases and complications. He also regards the sedative virtues of Aconite in this disease as above those of Opium, and particularly has found that convalescence has been of short duration.

In chronic rheumatism, FLEMING recommends the external and internal use of this remedy, particularly in those forms of passive chronic rheumatism, in which fever is entirely wanting, and which are characterized rather by cold and stiffness of the painful joints.

JAHN (Spec. Mat. Med., p. 43) says:

"Aconite relieves almost with more certainty in chronic rheumatism than in rheumatic fever. This seems to be the proper sphere of Aconite.

B. DISEASES OF THE NERVOUS SYSTEM.

1.—*Neuralgia.*

1. Neuralgia in General.

Next to TURNBULL, who first made trial of Aconite with a view of ascertaining its curative properties in neuralgias, SKEY and GABALDA were more particularly the first who saw in Aconitine an excellent remedy in neuralgic pains of all sorts.

GRAVES (*Dublin Journal*, Feb., 1851) pronounces Aconite, in obstinate neuralgias, in most cases a remedy, which acts with speed and certainty; its use seems to him particularly indicated in neuralgias which have a gouty or rheumatic foundation.

PEREIRA gives (p. 57) a table exhibiting all the varied forms of neuralgia, in forty different cases, mostly observed by himself, and by which it appears that the most obstinate cases are, by the use of Aconite, cured in a surprisingly short time. In these cases, Aconitine was frequently brought into requisition. As to the question whether, in neuralgia, the external application, as recommended by TURNBULL, PEREIRA, COPLAND, WATSON, and SKEY was best, or its internal administration, according to HUFELAND, BUSSE, and THEALIER, FLEMING gives it as his opinion that, if the neuralgia be owing to inflammation in the painful part, or is

due to sympathetic irritation, the internal use of the remedy is better; but if, on the contrary, the pain is owing to local irritation of the nerve, the external use should be resorted to.

2. Local Neuralgia.

1. *Cephalalgia.*—Vogel (Surgical Observations, p. 78) cured with Aconite an obstinate case of hemicrania.

Radley (*Lancet*, Vol. II., No. 27, 1837) has witnessed speedy and certain effects from the extract of Aconite in pure nervous headaches; the same effects are confirmed by Thealier, *Revue Méd.*, Feb., 1834; Burgess, *Edinb. Méd. and Surgic. Journ.*, 1840, p. 95.

Fleming (p. 139) prefers in such cases the external application, if the pain be circumscribed or follow the course of the nerves.

2. *Prosopalgia.*—Rademacher (*Hufl. Journ.*, I., p. 615) gave, in a case of facial neuralgia, from three to six grains of the extract of Aconite, but unfortunately in combination with Sassafras and Guajak. A cure followed, with the breaking out of herpes-furfuraceus upon the affected place, and the formation of an abscess on the palatal bones.

Hufeland (*Hufl. Journ.*, IX., 3, p. 94) gave fifty drops of the tr. Aconiti-ætherea, four times a day, in a case of violent facial neuralgia. Wesner experienced a similar case in himself (*Ibid* 1829, 2 Bd., p. 37).

Masius (Contributions to a Future Monograph on Nervous Pains in the Face, in Hecker's Annalen d. ges. Heilkunde, VI., 290) does not regard Aconite as a sovereign remedy in this disease, but claims for it very favorable results in prosopalgia-rheumatica.

Gabalda administered continually the spirituous tincture in facial neuralgia with the highest success; sometimes, where it was of an intermittent character, in conjunction with Quinine.

Thealier reports cases (p. 2) cured by Aconite.

Turnbull preferred, in prosopalgia, Aconitine in the form of a salve, and gives in his work a number of successful results. Skey followed him (*Lond. Med. Gaz.*, Vol. XIX., p. 181), and by the reports which he gives of the history of cases, increases the number of successful cures obtained by the external employment of Aconitine.

FLEMING (p. 60) gives four successful cases, which relate to long-existing prosopalgia, in which the tincture of Aconite, applied externally, was more particularly resorted to.

ABAN (Revue de Thér., par MART. LAUZER, III., 1855) cured two cases of facial neuralgia by the internal administration of the extract of Aconite. In the "Bull. de Therap.," LI., p. 320, Oct. 1856, the same writer gives a case of intermittent facial neuralgia, cured by the ext. Acon. alcohol, ten, twenty, to forty centigr. being given a day, in from two to four doses.

3. *Odontalgia.*—FLEMING (p. 62) obtained, by rubbing the tincture of Aconite upon the gum, and by introducing a few drops of it in the carious tooth, in cases of toothache, very great alleviation of the pain, and often instant and permanent relief.

4. *Otalgia.*—FLEMING (*ibidem*) also advises, in this form of neuralgia, the introduction of a drop or two of the tincture of Aconite, diluted with an equal quantity of water, into the external meatus, or to rub the parts outside with the pure tincture of Aconite, and has repeatedly witnessed alleviation of the pain, and often radical help.

To relieve the troublesome ringing in the ears, in cases of deafness, and which troubles the patient even more than the deafness itself, BLANCHET has employed for many years, with excellent success, Aconitine in doses of one to ten centigrammes a day, internally, and externally, in the form of a salve, to the middle meatus (Revue de Thérap., 1856, p. 13).

5. *Cardialgia.*—GEBEL (HUFL. Journal, VIII., 1, 180) cured, with the extract of Aconite, a case of cardialgia, having a rheumatic origin, which had resisted all remedies, even Opium, and pained the patient almost to distraction.

FLEMING (p. 64) gave, in six cases of pure gastralgia, a mixture composed of tinctura Aconiti, ʒj, Natr.-carb., ʒjss, Magnes.-sulph., ʒjss, aqua., ʒvj, a tablespoonful at a dose when the pain was severe, and generally saw immediate relief from each dose, and in four cases a permanent cure in a few days.

6. *Neuralgia-Thoracica et Cordis.*—In this form of neuralgia, appearing as neuralgia-intercostalis and thoracia, and often attri-

buted to spinal irritation, FLEMING (p. 62) found the local application of the tincture extremely successful.

IMBERT GOURBEYRE cured in two days, with the tincture of Aconite, a severe case of neuralgia-cordis, with a slight organic affection of the heart, in a woman forty years old.—"Revue Thérap." 1856, p. 67.

7. *Lumbago.*—COLLIN (p. 145) gives a case of cure in lumbago, brought about by Aconite.

FLEMING (p. 75) treated ten cases of lumbago, part by the entirely internal use of the tincture of Aconite, and part by its internal and external use; all were cured according to the length of time which they had existed, in from one to eight days.

8. *Ischias.*—COLLIN (p. 141) cured with the extract of Aconite a case of ischias produced by wounding a toe. THEALIER also reports two successful cases; and in twelve cases, which he treated by the internal administration of Aconite, FLEMING saw in seven complete, in two, temporary cures, in two, partial relief, and in one, only, no benefit whatever (p. 63).

JAHN, "Praktisch. Mat. Med.," I., p. 44:

"In ischias and sciatica, I know no remedy which brings such speedy and certain relief as the mixture of Aconite and the Sal. Sedativ. Hombergi. After only a few doses, the patient experiences at once considerable relief."

9. *Neuralgia-Cruralis.*—FLEMING cured a case of neuralgia-cruralis, seated on the inside of the patella, by the external use of the tincture of Aconite, in a short time (p. 63).

10. *Neuralgia-Brachialis et Digitorum.*—COLLIN (p. 141) cured a neuralgia of the arm with Aconite tincture.

TURNBULL (p. 139) cured, in four weeks, a case of neuralgia-digitorum, by the internal and external use of the tincture of Aconite, and, later, the salve of Aconitine.

According to FLEMING'S account, CORMACK relieved a neuralgia of the right hand by the internal use of the tincture of Aconite. A relapse occurring some time after, the patient could not be prevailed upon to use the remedy again, in consequence of some dimness of vision which it had given rise to in the first instance. —FLEM., p. 63.

II.—*Neuroses.*

1. Asthma.

Greding cured, the seventh case, an asthma, by the extract of Aconite, which seemed dependant on irregular hæmorrhoids and rheumatism.

In a case of hysteria, with spasmodic asthma, and accompanied by attacks resembling epilepsy, Fleming (p. 77) saw, after the employment of Aconite, the attacks diminish in number and severity. In spasmodic asthma of a less violent character, he frequently made use of Aconite with benefit.

2. Angina-Pectoris.

Although without any immediate experience in this complaint, Fleming (p. 64) nevertheless concludes, from the good effects which Dr. Copland saw from its use in neuralgia of the heart, that its internal employment, particularly, must be very serviceable in angina-pectoris.

3. Tussis-Convulsiva.

Gabalda saw, after the internal use of the tincture of Aconite, striking abatement and gradual disappearance of the paroxysms of coughing.

4. Convulsiones et Epilepsia.

Collin (p. 136) completely cured in two months, by the use of Aconite, a girl suffering with hemiplegia, whose courses were absent, and who had had convulsions daily for several years.

Fleming (p. 77) is of the opinion that benefit might be derived from its employment in tetanus and chorea.

III.—*Paralysès et Paraplegiæ.*

Greding relieved materially (p. 235), by the extract of Aconite, a case of rheumatic paralysis, connected with rheumatic pains.

Rademacher (*Hufel. Journal*, I., 615, and Schäffer, *Hufel. Journal*, XLVII., 2, 27) saw diplopia made to disappear after the use of Aconite.

Richter recommends Aconite in amaurosis.—Voigtel, "System of Mat. Med.," p. 326, II., 2.

Roques cured, in the space of a few days, with a small dose, a case of nyctalopia which had existed several months.—De Man, p. 49.

C. MENTAL DISORDERS.

Numerous as were the trials made with Aconite by Greding, in all kinds of mental disorders, there were in no case clear indications of a beneficial effect.

Schneider (Contribution to a Materia Medica for Psychical Diseases, Tubingen, 1824, p. 273) calls Aconite a powerful excitant, as well to the peripheric as the central nerve-system. Although experience does not enable us to decide fully enough in regard to its efficacy in melancholy and epilepsy to justify us in recommending its employment for psychical disorders, its judicious use may be of service in those cases dependant upon inactivity of the nerve-ganglia of the abdomen, stagnation of the portal system, retrocedent gout, and cutaneous eruptions.

CHAPTER II.

Employment by Homœopathic Physicians.

Already nine years before the publication of the "Fragmenta de Virib. Medicamentorum Positivis," in the year 1796, S. Hahnemann, in his work, "Attempt to Discover a New Principle of Ascertaining the Power of Medical Substances, together with Some Considerations of the Former Methods," called attention to the fact that Aconite, by virtue of the peculiar symptoms to which it gives rise, may be, and has already been employed as a curative remedy in certain diseases which are characterized by similar peculiar symptoms. While we take it for granted that the physiological symptoms enumerated by Hahnemann in the place referred to are already known, we mention here only the conditions of disease in which he recommends the use of Aconite, namely·

"Pains in the limbs of every kind, chronic rheumatic toothache, false pleurisy, facial neuralgia proceeding from artificial teeth, total and partial paralysis of individual extremities and organs, enuresis, paralysis of the tongue, amaurosis, convulsions, epilepsy, cutaneous troubles and ulcers, hysteria, mania, &c."

We miss here the indications of the inflammatory diseases and fevers in general, which HAHNEMANN gives in the preface to the article on Aconitum-napellus in the "Mat. Med. Pur." As we have previously referred to the general indications mentioned, we pass at once to the clinical experiences which are afforded by homœopathic physicians in their literature. It would lead us too far to give at full length each individual case of sickness, with its special form; it is far better, and of incomparably more importance to become acquainted with the special indications according to which Aconite is employed by homœopathic physicians in individual forms of disease.

A. AFFECTIONS OF THE CIRCULATORY SYSTEM.

I.—*Diseases from Disturbances in the Distribution of the Blood.*

1. Congestiones et Vertigo-Congestiva.

Aconite is particularly appropriate to congestions in plethoric men and young people of apoplectic habits; a predominant symptom in the patient is, that they cannot remain standing, but feel a constant inclination to sit down. We find several such cases, which relate to congestions of the head, in *Allg. Hom. Ztg.*, XXXII., 228. "Hygea," V., 102.

GRIESSELICH expresses himself on this point, "Hygea," V., 218:

"I have frequently subdued congestions to noble parts, as the head and chest, in grown-up persons, but frequently the relief is only palliative. A high degree of congestion in the breast, in a pregnant woman in her last month, was removed by Aconite, so that she was able to sleep tranquilly, and was no longer afraid of suffocating. In diseases of children, which are so often characterized by congestions to the head and inflammatory irritation, Aconite plays an important part."

CASPARY (Annals of Clinical Homœopathy, I., 250) also cured with Aconite congestive troubles in a pregnant woman.

In congestions during the process of labor, if, where the head of the child is unnaturally large, or presents in a difficult position, even resolute women—on account of the pains succeeding each

other at short intervals—utter loud cries, and the face becomes red and covered with sweat, and there is great thirst, Aconite seems, according to WESSELHÖFT's experience (Corresp. Hom. Aerzte, XIV., 153), to prove of great service.

In congestions to the breast, particularly those of a phthisical character, we shall find, farther on, Aconite an excellent prophylactic in the cough attended with bloody expectoration.

RAU (Hygea VII., 399) also recommends Aconite in congestions to the breast in the stage of reaction in cholera.

2. Apoplexia-Sanguinea.

The general indications for Aconite in apoplexy are particularly given by KREUSSLER (Therapie, p. 126). The use of every other remedy should be neglected rather than this, and it subdues at once that kind of apoplexy which demands, more than all others, speedy assistance. It may be administered, also, where there is a momentary uncertainty as to the true cause of the apoplexy, and is particularly suitable to the habitus-apoplecticus, and to individuals who are troubled with any diseases of the blood-vessels, or with hæmorrhages. The head feels hot to the touch, the carotids pulsate strongly, the temperature of the skin is warm, the pulse full, strong, hard, or also oppressed, but not intermittent.

STURM cured a case of apoplexy, arising from fear and anger, by Aconite (*Allg. Hom. Zeitg.*, I., 66). The same cured also an apoplexia-sanguinea of a toper.—*Ibid.*, p. 67.

3. Amenorrhœa.

Indications are wanting; we have met with but one case of this kind recorded, which was written by MELAISE (*Allg. Hom. Ztg.*, XIII., 303). He effected, by means of Aconite, a complete and permanent cure of the amenorrhœa, which, unaccompanied by any other troubles than tightness in the præcordial region and dyspnœa, had existed for six months, the patient being a girl, twenty-one years old, of a plethoric habit.

4. Hæmorrhagiæ.

1. *Narium.*—KREUSSLER (Therapie, p. 136) says:

'Aconite will be found useful in bleedings from the nose which are united with great rush of blood to the head; this condition is indicated by heat of

the head, red face, and injected eyes, accompanied by a general excitement of the circulatory system."

This is confirmed by WEBER, "Hom. Archiv.," XVI., 2, 13.

SCHRÖN (Hygea, V., 101) has often treated successfully, by Aconite, frequently recurring and exhausting epistaxis, where there was also congestion to the head, in women very far advanced in years.

2. *Hæmoptœ.*—Hæmorrhages from the lungs always proceed from a certain congestive condition, of which, in most cases, tubercles lie at the bottom. As Aconite is beneficial in pure congestions to the breast, so must it be also in those congestions to which the hæmoptysis is due, as, for example, in straining, ascending mountains, shocks, &c.

Aconite, however, has been of most use in the hæmoptysis of phthisis. So the *Allgem. Hom. Ztg.*, IX. No. 16. HEICHELHEIM says farther, "Hygea," V., 207:

"I have restrained many cases of hæmoptysis by this remedy; the patients were generally young men and women, in whom the circulation was restrained by the formation of tubercles in the lungs. I administered Aconite at short intervals, every two or three hours, until the flow of blood ceased and the coëxisting agitation of the blood was repressed. I have seldom known relapses where the cure has been continued."

Also, according to GRIESSELICH (Hyg., V., 218), active hæmoptysis demands the employment of Aconite; but, since tubercles may be regarded, in most cases, as the bases of these, it acts only as a palliative.

3. *Hæmatemesis, Melæna.*—It would be difficult to establish an indication for Aconite in these conditions, dependant as they are, for the most part, upon disturbances of different kinds, and upon active congestions; yet there is one case published, in which Aconite proved of service in these conditions. This case, communicated by SCHRÖTER (Neues Archiv., III., 2., 135), has reference to a child, three days old, who was seized immediately after birth with vomiting of blood, and dark, bloody stools, refused the breast, and became emaciated. The trouble was relieved by the two-hundredth dilution of Aconite, and cold applications to the abdomen. We refrain from comment, as the case criticizes itself.

Aconite is also found among the remedies mentioned by ALT-

MÜLLER (*Allg. Hom. Ztg.*, X., 3) in melæna, but without any special indications being given.

4. *Hæmorrhoids.*—According to HAHNEMANN (Therap., II., 199), Aconite often affords relief in hæmorrhoids: blood is lost, there is sticking and drawing in the anus, fullness of the abdomen, with drawing, pressure, and colicky pain, and exhausting pain in the small of the back.

II.—*Affections in the Movements and Changes of the Blood.*

1. Fever.

1. *Fever in General and Febris-Catarrhalis.*—TRINKS (Hygea, XIII., p. 154) thus expresses himself in regard to the indications for Aconite in fever:

"Aconite is the most sovereign remedy for fever in its original form and shape; it cures the fever speedily and certainly, though it may exist accompanied by every variety of local pains. It is, in this respect, surpassed by no other remedy, and is truly a God-like medicine, and while it removes that part of the disease which threatens the most danger, and in a certain measure isolates the local affection, in many diseases it removes this at the same time. Those fevers which are aroused by some disturbance of an organ, derive from Aconite even the greatest benefit."

GOULLON, *Hom. Vierteljahrsch.*, I., p. 279:

"The fever, increased by the strong external impression, or by the great weakness of the organism, is of a nervous inflammatory character. Especially is this frequent in children: the headache is violent; the giddiness and weakness of the muscles make it almost impossible to hold up the head and body, and the limbs tremble; stupefaction alternates with great restlessness and light phantasies. In little children, there are convulsions and startings with affright; in larger, sights of strange shapes; the pulse generally very frequent, and the fever for the most part continuous. Here is Aconite the sovereign remedy! As violent the symptoms, as certain the aid.

GRIESSELICH, "Hygea," IV., 311:

"Catarrhal fever in little children, with frequent rattling respiration laboring thorax, affection of the eyes with lachrymation, red, swollen face, inclination to sleep, startings up, thirst, hot, dry skin, frequent pulse, suppressed secretion of urine. Here was Aconite a valuable remedy in diminishing the great activity of the vessels. I have seen, by the use of this remedy, the most violent febrile reaction disappear in twelve hours."

And "Hygea," V., 216

"In inflammatory-catarrhal and simple catarrhal fevers the circulatory system is at least held in check, which, however, is not particularly true in regard to influenza, to the peculiar catarrhal nervous pains of which I have not found Aconite to correspond."

Bernstein (*Allg. Hom. Ztg.*, VII., 23) expresses himself to the same effect.

After the careful provings in the hospital, Wurm and Casper (Clin. Studies, p. 29) may give their opinion of the curative power of Aconite in catarrhal fever; they say:

"Is the fever accompanying the catarrh so violent as to make the local pains seem of minor importance, and therefore demand our principal attention, there cannot be a moment's doubt as to the proper selection of the remedy, although the employment of Aconite is not indicated by the irritated condition of the mucous membrane. The febrile symptoms soon cease after its use, at least the next day."

2. *Febris Gastrico-Inflammatoria.*—Aconite may undoubtedly be employed with benefit in those fevers which accompany acute inflammations of the gastric organs; but, in these cases, the fever is only symptomatic. But, in those cases of gastric fever to which, on account of the painfulness of single regions of the abdomen, the name gastric-inflammatory has been given, Aconite is employed only at the beginning, and, shortly afterwards, in alternation with other remedies, which complete the cure. So in the cases which are communicated by Griesselich (Hygea, V., 219) and Romig (Corresp. Hom. Aertze, 10).

3. *Febris Typhosa et Biliosa Maligna Tropica.*—With the exception of the statement in the *Homöop. Ztg.*, IX., 24, that Aconite was found serviceable in the pest, at Constantinople, and the communication of Holcombe, in regard to yellow fever, in the *Homöopath. Vierteljahrschr.*, V., pp. 406 and 434, to the effect that Aconite and Belladonna were the specific remedies in the first stage of yellow fever, there exist neither indications nor successful results to recommend its employment in those cases which are regarded as belonging to the family of typhus.

4. *Febris Intermittens.*—Individual observers are not wanting who ascribe to Aconite a curative power in intermittent fever. Goullon (*Hom. Viertelj.*, I., 289) communicates a statement of Everard, who had cured, in the Netherlands, in a very short time, by the use of Aconite, given a short time previous to and during the attacks, a case of intermittent fever which had resisted all the ordinary remedies, even large doses of Quinine. Unfortunately, nothing is said about the particular kind of this intermittent fever.

Bernstein (*Allg. Hom. Ztg.*, VII., No. 23) also administered Aconite during intermittent fever, often a short time before the paroxysm, but does not mention the circumstances which prompted him to employ it.

Schwab administered to children who suffered with intermittent fever—which was almost endemic on account of the Rhine—pure Aconite; the fever being accompanied with but little cold, but very intense heat, often lasting from ten to twelve hours. The attacks must not, however, have occurred too frequently.—"Hygea," I., p. 76.

A very violent headache, which existed during one of the paroxysms, in a very robust man, was, according to the same writer, materially bettered.

Wurm and Caspar (Clinical Studies), who give seventy-seven cases of intermittent fever, of all the various types and forms, never had any occasion to bring Aconite into use.

2. Inflammations and their Consequences.

1. *Encephalitis, Meningitis, Hydrocephalus-Acutus.*—According to the views of various authors, Aconite seems, in these forms of disease, to dispute the preference with Belladonna. Some have, however, attempted to mark out certain indications for it.

Thus Kreussler (Therapie, p. 57) says:

"That always, when only the first signs of inflammation of the brain are manifest, or in the state of developed inflammation, Aconite is the remedy which must be first administered. It is not necessary to consider here whether or not inflammatory fever is already present, for pure inflammation of the brain-substance, as well as of the membranes, calls, in most cases, for this remedy from the beginning of the disease to the occurrence of the pseudo-crisis. Should there be within twelve or twenty-four hours no amelioration, neither sweat, sediment in urine, nor nose-bleed, and the restlessness continues, and sopor and delirium set in, recourse must be had to another remedy."

The same opinion is expressed by him in another place.—*Allg. Hom. Ztg.*, XXIX., 113.

Heichelheim (Hygea, V., 3, 205) treated eight children in the first stage of encephalitis, and soon restored them by the use of Aconite.

Schrön found Aconite always very useful (Hygea, V. 102) in dentition of children, if congestions to the head set in, with symptoms of threatening inflammation of the brain.

The only cases of cure of the diseases mentioned which are offered in the homœopathic literature, have almost all been treated by Aconite, at least, as the first and principal remedy, though often followed, within a few hours, by Belladonna, Nux.-vom., &c.

In a case of NOACK'S (*Allg. Hom. Ztg.*, XXI., 81) Belladonna, which was administered at first, afforded no relief, but Aconite being afterwards given, effected a cure.

For the rest, whether, in these case which have been given, the diagnosis has always been correct, we leave to be decided.

2. *Ophthalmia.*—Inflammations of the eyes—those organs as important as finely constructed and complicated—have often found, according to the experience of homœopathic physicians, their only remedy in Aconite, whether they were of a traumatic, catarrhal, specific, rheumatic, or syphilitic nature.

STAPF says of traumatic inflammation of the eyes (Archiv., VIII., 3, 185) that Aconite, if a timely use be made of it, is a very efficient remedy, which may also be premised with advantage by other remedies, if the disease have assumed more of a chronic form, particularly if complicated with violent pain and photophobia.

The cases relative to this disease are: DUDGEON (*Allg. Hom. Ztg.*, XXXVII., 357), and particularly ARNOLD (*Hom. Vierteljahrsch.*, IV., 353), in the communication headed, "Inflammation of the Eye, the cause of which continues to exist, cured by the internal administration of Aconite." This case, in which a splinter of iron had got into the eye and produced severe inflammation, which disappeared so soon after the use of Aconite that the eye, otherwise very sensitive to the light, could be examined, though the splinter was yet clearly visible, and was then for the first time removed, is highly instructive. In simple catarrhal ophthalmia, GRIESSELICH says (Hygea, V.) that he has frequently witnessed good results from the use of Aconite alone.

A case of intermittent ophthalmia, which had lasted several days, and in which violent beating pain in the right temple, sticking and drawing pain in the right eye, with swelling and redness of the eyelids, strongly marked redness of the conjunctival bulbs, lachrymation and photophobia set in at eight o'clock every morning, and completely disappeared in a few hours, was cured by GRIESELICH with Aconite, after Arsenic and Bella-

donna had been employed without effect. At the expiration of several months, the same condition returned, but this time proved amenable, not to Aconite, but to Belladonna.

KNORRE (*Allg. Homöopath. Ztg.*, XIX., 65) cured with Aconite two cases of ophthalmia-blennorrhoica; Sulphur being administered evenings.

Even ophthalmia-neonatorum, according to GROSS (Archiv., X., 2, 65), may be easily subdued by the timely use of Aconite in the beginning of the disease.

Ophthalmia-arthritica and rheumatica, as may be supposed from the relation of Aconite to rheumatism, is often treated with Aconite with the best results. According to KREUSSLER (Therap., p. 64), it often perfects a cure without the assistance of any other remedy.

3. *Angina.*—It is, according to the general indications of EULENBERG (Hygea, XXII., 352); GOULLON, (Archiv., XIX., 2, 99) particularly the rheumatic form which affects the tonsils less than the uvula and velum-palati, which may be most speedily relieved by the use of Aconite. GOULLON also derived decided benefit from the use of Aconite in angina-apthosa, in which the thick swollen tonsils were studded with some white points. Nothing characteristic is offered by the individual cases of disease; Belladonna and Mercury were frequently given after Aconite to complete the cure.

4. *Laryngitis, Croup.*—In no disease is Aconite more frequently employed, and in none does it obtain more credit, than in croup. When we consider how difficult it frequently is to distinguish the simple tracheal cough from incipient—we will not say developed—croup, and how easily an apparently insignificant cough, with a croupy tone, may pass into true croup, the universal and just recommendation of the employment of Aconite in croup, and in croupy conditions, is not a matter of surprise. Search the homœopathic literature as much as we will, we cannot find a single undoubted case of developed croup which has been cured by Aconite alone, and with the assistance of no other remedy. Nearly all homœopathic writers are agreed in saying, in this respect, that Aconite is curative only in the first stages, and as a remedy which may be resorted to on account of the fever. On this point may be mentioned:

SCHRÖN, "Hygea," III., 163:

"Unaided by other remedies, according to my own experience, Aconite has not the power of subduing a genuine case of croup.

"Yet Aconite," says the same author, (Hygea, V., 99) "may not only check the development of incipient croup, but, where the disease has already arrived at the stage of plastic exudation, also assists the operation of the other remedies."

GRIESELICH, "Hygea," V., 216:

"I have often found Aconite useful in incipient croup."

GOULLON, *Homœopath. Vierteljahrsch.*, I., 189:

"Has the treatment been neglected in the beginning, and the disease has gone on to shrill, contracted respiration, with paroxysms of anguish, &c., Aconite is the chief remedy, though Spongia, &c., may be given in alternation with it."

ELB, in his excellent treatise, "Knowledge and Cure of Membranous Croup," (*Homœop. Vierteljah.*, II., 357) limits his indications for Aconite in croup as follows:

"Experience shows Aconite to be suitable only when inflammation is present, and is accompanied by fever, with hard, full, frequent pulse, or if there is great anxiety and hoarse respiration. It is also used preferably in the beginning of the disease, when not only all therapeutics agree in regard to its fitness, but often lay it down as the sole indication. But since, as we have seen, in many torpid kinds of croup, fever sets in during the stage of improvement, the use of Aconite should not in such cases be excluded.—(P. 386): The curative action of Aconite does not consist so much in a direct lessening of the croupy affection, as in diminishing the fever, and bringing about copious perspiration. If, on the appearance of the latter, no relief is afforded, the use of Aconite should be abandoned, in spite of the continuance of the fever, as in such cases it only lowers the energy of the life-power."

5. *Bronchitis and Tracheitis.*—These forms of disease, which have, for the most part, a catarrhal origin, and frequently are constant accompaniments of simple catarrhal fever, have, when the trouble is recent, according to the statements of all homœopathic authorities, their most rapid and most speedy remedy in Aconite. This, according to GOULLON (p. 186), is especially true of the bronchitis of children. The same is the case with the inflammatory irritation of the greater air-passages, accompanying the breaking out of measles and preceding influenza.

6. *Pneumonia.*—The enumeration of all the cases of pneumonia alone, which have been cured by Aconite, would fill a whole volume. Would we examine these, and endeavor to deduce from them the general indications for the employment of Aconite in pneumonia, we find excellent works relative to the subject from

which it is easy to form the most conclusive evidence. These works are:

Cl. Müller, "Homœopathic Treatment of Pneumonia," (*Hom. Vierteljahrsch.*, I., 26), and Wurm and Caspar, (Chemical Studies, p. 58). Both these authors, with whom others, as Horner, Hartmann, Buchner, &c., agree, are of the opinion that it would be following a slovenly way of practice to give Aconite in every pneumonia only according to its general antiphlogistic indications. It is suited only to certain kinds, or to certain stages of it.

Müller, (p.58) after mentioning the similar indications given by various authors—Watzke, Wurm, Buchner, Horner, Gerstel, Kreussler, and Hartmann—thus expresses his views:

"It seems clearly made out, that Aconite sometimes has the power of cutting short pneumonia in its first stage, and of leading at once to a cure, and in others, at least, of moderating and checking the immoderate excitement of the vessels caused by impeded circulation of the lesser system. The most judicious moment for the employment of Aconite is in the first stage, when congestion, stasis, or inflammatory congestion is present in a part of the lung, but the affected part still contains air. The only symptoms which call particularly for Aconite are: violent febrile heat, preceded by chills, with hot burning skin, quick hard pulse, and deep, often bluish-red face, accelerated, fatiguing, imperfect respiration, with restlessness, anxiety, and palpitation of the heart."

The remaining symptoms correspond to the known symptoms of every pneumonia.

Wurmb and Caspar say:

"The best moment for the employment of Aconite in fibrinous pneumonia is at the precursory period, and the inflammatory stasis; should infiltration already have occurred, hepatization have taken place, Aconite is no longer suitable. In many pneumonias, the exudation ensues at once; in others, in frequent repetitions, and also intermittingly. Should the last be the case, Aconite must be administered as often as a new attack occurs. In pneumonias which are developed without any subjective symptoms, Aconite is not indicated.

"We do not look upon Aconite merely as a symptomatic remedy, and one sometimes capable of subduing the febrile symptoms, but are of the opinion that, if employed at the right time, and in a proper method and way, it acts upon the process of the pneumonia in its totality."

7. *Pleuritis.*—Inflammation of the pleura, if it occur alone, and not in connection with pneumonia, seems to have found much less frequently its curative remedy in Aconite. Not only is it used in the first stage of pleuritis much less frequently than in the first stage of pneumonia, but it is far inferior to Bryonia, Arnica, and Rhus, which are opposed to pleuritic inflammation.

WURM (Hygea, XII., 29) says of the treatment of pleuritis by Aconite:

"If the plastic material is predominant in the pleuritic effusion, or if, as we are accustomed to say, the disease have a marked inflammatory character, and commences, as is commonly the case, with violent febrile symptoms, there is no remedy which at the commencement deserves more frequent employment than Aconite. I have never observed that this remedy acted upon the effusion itself; but, as the process of cure commences as soon as the fever ceases, it is evidently of importance to subdue the fever as soon as possible, and, as the capacity of Aconite for this purpose is greater than that of any other remedy, it is natural that it should be resorted to at first on account of the fever."

8. *Carditis* (*Endocarditis*, *Pericarditis*), *Vitia-cordis et vasorum.*—As all homœopathic physicians are united in the opinion that Aconite has a direct specific relation to the circulatory apparatus—namely the heart—it may be regarded as a matter of course that it has been employed in all diseases—particularly in inflammatory—of the circulation. GRIESSELICH (Hygea, XX., 420) places Aconite in the first rank of his "heart-remedies."

9. *Gastritis.*—Pure gastritis, as is well known, is a rare disease amongst us; the form which occurs here and there is, according to GOULLON (*Hom. Vierteljahr.*, I., 190), gastritis-erysipelatosa, which is characterized, in a high degree, by preceding symptoms of erysipelas; namely: by great nausea and frequent vomitings, following each other in quick succession—the matter vomited consisting at first of food, and afterwards of bile, often in large quantities; finally by distress, violent pressing pain, with great thirst and external heat. According to GOULLON, the principal remedies are Aconite the first day, and afterwards Belladonna.

GEIER (Hygea, XXI., 358) cured a case of gastritis arising from cold, and MALY a similar case (Hygea, XXI., 356).

10. *Enteritis and Peritonitis.*—Inflammations of the intestine, in single regions and membranes, as inflammations of the peritoneal covering, and of the peritoneum itself, have, as is shown by homœopathic literature, frequently been cured by Aconite. Besides individual cases, we meet with the following expressions in relation to its corresponding indications.

HARTMANN (Therapie, I., 480):

"With the exception of Aconite, there is no remedy which corresponds so well to enteritis in all its forms and shades, and it may be considered a true specific in this disease, provided only that its use is continued."

KREUSSLER (Therapie, p. 89):

"Aconite is, in inflammation of the diaphragm, with or without complications with inflammations of the neighboring organs, with violent inflammatory fever, the first and most important remedy. This is also the case in peritonitis and inflammation of the intestines.

11. *Hernia-incarcerata.*—The virtues of Aconite have been shown by experience in a number of cases of incarcerated hernia, the long existence of which is generally complicated with inflammatory symptoms. GAUWERKY (*Allg. Hom. Ztg.*, XL., 220) pronounces it the capital remedy, and administers it till the first storm has subsided. GOULLON also (Archiv., XIV., 2, 138) so relieved by Aconite two cases of incarcerated hernia, in which there was a high degree of inflammation, within eight to twelve hours, that the next morning both patients were quite well. KREUSSLER (Therapie, p. 99) recommends it in high terms.—As to whether taxis is to be resorted to after the inflammation has been subdued, or whether the whole is to be left to nature, nothing is said.

12. *Helminthiasis.*—We do not know with certainty whether Aconite, like China and other remedies, be destructive to worms, for the fact that the use of Aconite is sometimes followed by vomiting ascarides is not of much weight. WEBER found, on the contrary, in the body of a wolf killed by Aconite, the worms living.

Homœopathic physicians have, however, recommended Aconite in helminthiasis, though more for the purpose of relieving the fever so often accompanying this disease than of expelling the worms. So KREUSSLER (Therapie, p. 18), and HERING (Hom. Hausarzt, p. 242) recommend this remedy in worm-affections of little children. MALY (Hygea, XVIII., 505) saw two ascarides vomited up after the administration of Aconite to a woman, to whom it had been given for a cough increased by eating, on the suspicion that there were worms.

13. *Hepatitis.*—We find no account in homœopathic literature of a single case of inflammation of the liver cured by Aconite alone.

KREUSSLER says, however, (Therapie, p. 104):

"If, with the more deeply-situated, dull, pressing pains in the right hypochondrium, inflammatory fever become complicated, Aconite is indicated, and often effects a complete cure."

HARTMANN also calls it, in inflammations of the liver, an indispensable remedy, particularly (Therapie, I., 459) where the pulse is accelerated, soft, and sometimes irregular, but not so often where it is frequent and hard. WEBER (Archiv., XVI., 1, 84) always commenced the treatment of hepatitis with Aconite, and, after twenty-four hours, gave some other remedy.

14. *Metritis and Ovariitis.*—Clinical experience and testimony show that, in inflammations of the female genital organs, Belladonna holds a much higher place than Aconite. Yet we find here and there, at least, (Hygea, VI., 139), and (VII., 203, *Homœopath. Vierteljahrsh.*, I., 194), proofs that Aconite has been able to alleviate somewhat the fever and pain accompanying these inflammations; but, in order to subdue the inflammation and its events completely, recourse must be had to other remedies. Comp. SCHRÖN (Hygea, XI., 43) and KREUSSLER (Therap., p. 92).

15. *Nephritis and Cystitis.*—Here, too, we find that Aconite, in spite of its specific relation to the uropoëtic system, has been forced to occupy a portion inferior to many other remedies, and is recommended and employed only for the purpose of controlling the symptomatic fever. HARTMANN also says (Therapie, I., 492) that, in the fever, which is generally of a synochial character, accompanying inflammation of the bladder, the employment of Aconite should never be omitted.

KREUSSLER (Therapie, III.) says:

"Aconite may be employed in inflammation of the bladder, as in inflammation of the kidneys, with equal success; does the remedy presuppose violent fever, together with the topical pains, it acts not less upon the latter than the former. In this manner Aconite often removes the whole disease."

With still more confidence does HERING (Homœopath. Hausarzt, p. 260) express himself:

"The ordinary cases, when accompanied by pain on micturition, and but little is voided, and when what is passed is quite red, dark, and turgid, may almost always be cured by Aconite. If, from the violent strangury and pain in the bladder, this region also becomes swollen and painful to the touch,

and the pain is increased as soon as the urine commences to flow, so that the latter is often blood-red, or contains clots of blood, Aconite should be administered in every case."

III. *Diseases Affecting Secretion and Separation.*

1. Dysenteria.

Aconite corresponds also, in this disease, more to the inflammatory condition. It never perfects a cure itself, but prepares the way for other remedies. According to HERING and HARTMANN, it is the best remedy if the dysentery set in in the cold night with great heat, with violent, dull, intense heat and thirst, and also when there are present pains in the limbs, head, and neck. (Also rheumatic dysentery.—AUTHOR.)

ENGELHARDT (Pract. Contrib. Thorer., 3, 34) found himself obliged, in epidemic dysentery with inflammatory complications, to precede the use of other remedies with several doses of Aconite.

2. Cholera.

CAMMERER (Hygea, IV., 490) cured with Aconite a case of cholera-sporadica proceeding from cold and errors in diet.

Aconite was frequently employed with beneficial results in the Asiatic cholera, particularly in the congestive state, which was frequently so terrible at the period of reaction.—QUIN (Treat. of Cholera, p. 24) wrongly calls this condition cholera-inflammatoria, in which form the employment of Aconite is called for, until the subsidence of the inflammatory condition.

REUBEL (Hygea, VII., 397) witnessed, during the cholera-epidemic at Munich, the best results from Aconite when administered in these inflammatory states. The same results were observed by TIETZER (*Allg. Hom. Ztg.*, XXVII., 37, 82), and RUMEL (*Ibid.*, XXXV., 328). PETERSON (Annals of Clinical Homœopathy, 3, 75) found Aconite of great value in the suppression of urine attendant upon cholera.

Some physicians have also had time to administer Aconite in the beginning of cholera, and have found its administration thus, attended with benefit;—so RUMEL (*Loc. Cit.*) and SCHNEIDER (*Allg. Hom. Ztg.*, XXXVI., 277).

It is worthy of remark that two authors, MARCHESINI RUOFF, (Treat. of Cholera, p. 61) and BAERTL (*Allg. Hom. Ztg.*, VIII., 161) find an indication for Aconite in the passage of asca-

rides in the stools, in an attack of cholera. The latter administered the remedy in the form of an injection.

3. Fluor-Albus.

Both the general recommendations for the use of Aconite in fluor-albus throw no great weight into the scale. Molin (*Allg. Hom. Ztg.*, XXXIV., 355) says nothing more than that he recommends it where there is a "profuse tough discharge from the vagina," and Hartmann gives as an indication in his "Therapie," II., 154, "increased feeling of warmth, fullness, drawing in the inner organs, constant, but not disagreeable creeping, which impels to constant scratching, burning sensation on passing the water, and at the same time a slightly febrile condition."

4. Exanthemata-Acuta.

Though Aconite is employed and recommended in all the febrile conditions which accompany the eruptive stage of the various acute exanthemata, there are two exanthematous diseases particularly, in which there exists for Aconite a special curative, as well as prophylactic indication. These are measles and miliaria. In true scarlatina-levigata it may even take precedence of Belladonna, though authorities are not wanting who give, in their cases, Aconite in alternation with Belladonna, in order to lower the action of the vessels, and thus to moderate the fever.

5. Icterus.

Aconite is oftener used with success in icterus than in acute hepatitis. In two cases, communicated by Eulenberg (Hygea, XXII., 353), and Sommer (*Allg. Hom. Ztg.*, XXX., 331), it effected a cure without the use of any other remedy; in many other cases, remedies were administered in conjunction with, or after it. According to Rummel (*Allg. Hom. Ztg.*, XXVIII., 265), recent cases of jaundice are often removed by Aconite in a few days, and, according to Eulenberg, Aconite is particularly called for in this disease when it is caused by rheumatism, and the pain in the region of the liver often changes its place.

6. Rheumatismus et Arthritis.

The favorable effects of Aconite in every form of rheumatism and in gout are very instructive. It is more particularly in rheu-

matic fever, acute rheumatism of the joints with its metastases, and the attacks of acute gout, that Aconite exercises its curative power. Wurmb and Casper seem to us to have given most fully the indications of Aconite in acute rheumatism, as we find them in their works, as follows:

"Though Aconite has a close relation to fibrous structures, it is, nevertheless, seldom indicated in simple muscular rheumatism. Far different, however, is the case when, besides the fibrous tissues in the strongest sense of the word, as the ligaments and aponeuroses, the serous membranes, as the pleura and peritoneum, are also affected. The general and local symptoms are then so formed that we are forced, as it were, to the employment of Aconite. This remedy seems to correspond closely to acute rheumatism of the joints, particularly if it have arisen suddenly, and has set in with symptoms which indicate beyond a doubt the presence of a decided hypernotic blood-crasis, when it changes its position from one joint to another, when it involves the greater plains of fibrous tissue, and when, in the process of the disease, the serous coverings of the abdominal and thoracic cavities are implicated. The more violent the fever, and the greater the rapidity with which the disease changes its position, the more decided are the indications for Aconite. In those cases in which the acute rheumatism threatens to become complicated with pericarditis and meningitis, no remedy is more clearly indicated than Aconite."

The only histories of cases which we find in homœopathic literature, by Weber (Hygea, VII., 294), Frank (Hygea, VI., 110), Heichelheim (Hygea, III., 206), are simple confirmations of the above indications, and to give many other cases would carry us too far.

In gout, homœopathic physicians have usually preferred the antipsoric medicines as their principal remedies, and have made only an occasional use of Aconite between other remedies, particularly in acute exacerbations from old gouty deposits. Sigrist speaks highly of Aconite in podagra, and seldom required the use of any other remedy to bring about a cure.

7. Phthisis and Tuberculosis.

Homœopathy recognizes Aconite in phthisis and tuberculosis, particularly of the lungs, only as a palliative remedy, which, by diminishing the activity of the heart's action, possesses the power of restraining the congestive conditions in the lungs, hæmoptysis, and inclination to cough. Heichelheim (Hygea, V., 205), Griessler (*Ibid.* 218), and others, look upon the action of Aconite in the same way.

B. DISEASES OF THE NERVOUS SYSTEM.

It cannot be denied that homœopathic physicians have almost forgotten, in the physiological action of Aconite on the blood-system, its action upon the nerves, and while, in the former, we see it given the name of an omnipotent antiphlogistic remedy, we find the decided narcotic sphere which it possesses almost wholly neglected. Our researches in homœopathic literature, for cures of nervous disorders effected by Aconite, have been attended with fewer results than we can find recorded in the literature of the old school.

1. Cephalalgia.

According to Hering (Hom. Hausarzt, p. 136), Aconite often affords relief where the pain is violent and the patient lies bereft of his senses; sometimes chokes, whines, and cries, is afraid of dying, every rustle and every motion is unendurable, the pulse is very small and intermitting—especially when the headache is of a beating, striking character; also in the troublesome feeling as if a bullet went into the head, and caused in it a chilly wind, and in megrim, in violent sticking, boring pain over one eye, with nausea and vomiting, aggravated by being shaken.

According to Black (*Hom. Ztg.*, XXXI., 221), Aconite is suited to congestive cephalalgia, if the patient experiences a sensation of fullness and drawing, as though a band were tied about the head.

We find a single case communicated by Caspary, "Annalen," by Hartlaub and Trinks, I., 234.

2. Prosopalgia.

Homœopathic literature neither gives any cases of prosopalgia cured by Aconite, nor does it regard it particularly as one of the remedies to be employed in this disease.

3. Odontalgia.

According to the views of Altschul (Hom. Zahnarzt), Kreussler (Therapie, p. 33), Hering (Hom. Hausarzt, p. 208), Lobethal (*Hom. Ztg.*, XIII., 22), and Bönninghausen (Archiv, XV., 2, 5), Aconite is suited only to congestive toothache, with rush of blood to the face, burning in the face, beating pain, mostly

confined to one side, and so violent that the patient is almost beside himself.

4. Colica.

Müller (Hygea, VI., 99) cured a violent inflammatory colic by Aconite.

5. Tussis-Convulsiva.

Aconite here is valuable only in allaying the inflammatory or catarrhal fever which sometimes accompanies this disease; on the cough itself it has no influence.—Schrön, "Hygea," IV., 506.

6. Convulsions.

Convulsions from fright have, in one case, been cured by Aconite, the patient being a delicate nervous girl, sixteen years old. —Heichelheim, "Hygea," V., 207.

Convulsive hysterical attacks, in a girl eighteen years of age, have yielded to Aconite, after Cicuta had been employed without effect.

C. MENTAL DISEASES.

Homœopathic physicians seem to have found no right field for Aconite in mental diseases. In the two cases which are given in homœopathic literature (Bethmann, Archiv, IX., 1, 114), and Gross (*Ibid.*, VII., 3, 42), the principal symptoms are anxiety and fright, and forebodings of death; in one case, also, a congestive condition during child-bed seems to have been the cause of the mental disturbance.

Greisselich says of Aconite (Considerations upon Brain-Remedies, Hygea, new series, I., 259), that it is particularly appropriate in hyperæmic conditions, in mental diseases, and in hyperæsthesia, febrile acute disorders affecting the *morale*.

PART V.

CONCLUSIONS.

A.—The Physiological Action of Aconite.

An undeniably rich and abundant supply of facts—derived from accidental cases of poisoning, from therapeutic experience, and from the revelations of dissections—enables us to present a tolerably clear and never fortuitous delineation of the physiological action of Aconite. According to the different medical dogmatic stand-points, an enumeration of symptoms, accompanied, perhaps, by an attempt at a physiological explanation of individual groups of symptoms, would be the most acceptable and agreeable; but it must be understood that we cannot think of giving such a delineation, because it would not only be but a repetition of what is universally known, but would be a direct plagiarism. The symptom register referred to, of the homœopathic codices of Noack and Trinks (Part III.), or by Gerstel (*Oestr. Zeitschrift für Homöopath.*, I., 2), needs no amplification, but rather a purification and simplification of the symptoms (the symptoms of the ascarides and the maniacal symptoms on the appearance of the menses [Greding] are still found therein). Nor would we undertake a comparison of analogous diseases, for such an attempt would prove far inferior to the excellent work of Meyers.

Would we favor the old practitioners of an almost forgotten old-womanish system of medicine, we should be obliged to praise in words difficult of comprehension the resolvant, alterative, sedative, narcotic, and thence anti-arthritic, anti-scrofulous properties of our Aconite. We have, however, no such intention. We shall much prefer simply giving and critically examining the

simple data which we have laid down in that part of our work treated of heretofore, and thus proceeding logically to develop before the eye of the reader the picture of the workings of Aconite. Will this satisfy him? We hope that it may.

Though there is a great similarity in the action of the different forms of the preparations of Aconite, yet they differ in some points, and whenever this difference exists, we shall allude to it. The more the methods of application vary, so must we separate a local from a constitutional or general effect, and finally exhibit the action of Aconite, from the smallest symptom to intoxication.

1. Local Effects of Aconite.

Wherever the various forms of the preparations of Aconite may be applied, the effect is everywhere the same. There follows no particular pain nor swelling, or, at most, a feeling of itching or pricking, a little like pain; but, instead of the feeling of pain, there arises soon after the itching and pricking, a sensation of dullness and numbness, and local paralysis of the nerves of the affected parts.

If the tincture of Aconite, or the strong Aconitine in alcoholic or fatty solution, be spread upon or rubbed into the epidermis, there is observed, a short time after, a feeling of itching and pricking, a sensation of cold and numbness, which goes on, if the application be continued, to total loss of sensibility. The slight, scarcely-perceptible redness, which is dependent solely upon the rubbing, soon disappears, or gives way to a contrary condition, but never increases to an inflammatory redness.

This paralytic action can be due only to the fact that the nerves are directly affected; this is confirmed by those experiences which innumerable practical observations have made matters of fact, that the most violent local neuralgic pains affecting the face, teeth, and ears, are speedily relieved by the simple topical application of Aconite, and in their place set in the known feelings of paralysis and numbness.

Brought in contact with the mucous membrane, the same result follows, only with some slight modifications, and some accompanying symptoms of no material importance. In the tongue and lips, also, after external application, a slight burning sensa-

tion is experienced, which soon passes into prickling and numbness; the tongue seems to lose a great part of its mobility, because it is no longer master of its own sensations, while the movements of the lips seem to be performed with still greater difficulty; they are insensible of their contact with each other, and pricking them is attended with less pain. The taste, which is bitter when the medicine is first given, becomes to a greater or less extent lost. The increased salivation certainly cannot be regarded as the result of quickly-arising inflammation, but is to be attributed to reflex nervous action, the relation of the nerves to the mucous membranes and secretory apparatus being well known. The throat and stomach afford only the first symptoms of topical action; namely, scraping and burning in the course of the œsophagus, and feeling of warmth in the stomach; these symptoms soon disappear, but are not succeeded by any prickling or feeling of numbness, whence it is evident that these organs furnish no criterion in such sensations. The mucous membrane of the nose reacts naturally in its way; there arises no pain, but a violent sneezing, and a sensation of a cold draught that extends to the frontal sinuses, an analogue of paralysis in the epidermis.

The introduction of Aconite in the eye is not followed by pain, at least only that which might arise from the introduction of a foreign body into the eye, or from the spirits of wine which contained the preparation. The lachrymation is a symptom analogous to the sneezing and salivation. But, on the contrary, contraction and narrowing of the pupil at once take place, in opposition to the dilatation of the same, to be mentioned further on as a constitutional effect. If, on the contrary, Aconite be applied only about the circumference of the eye, dilatation of the affected eye arises in consequence of sympathetic reaction.

As a general principle, it may be stated of the local effects of Aconite, that the more abundantly the part to which it is applied is supplied with nerves, so much more rapidly and decidedly set in the changes in sensations that have been described above.

The application of Aconite *per anum*, into the cellular tissue in a cavity in the body, or its introduction into the circulation itself, is followed—as has been shown by experiments upon animals—by speedy and powerful, and sometimes fatal constitutional effects.

2. The Constitutional Effects of Aconite.

The symptoms which occur after taking into the stomach small doses of the preparations of Aconite—namely, the tincture and extract—are as follows:

In addition to the sensation of warmth and burning in the mouth and throat already spoken of, a feeling of warmth arises in the stomach, which is sometimes accompanied by slight nausea and oppression of the chest. This feeling of warmth spreads itself in a few minutes over the whole body, and, in sensitive persons, passes into a sensation of numbness and prickling in single parts of the body, particularly in the extremities of the fingers, the tongue, and the roots of the teeth. Together with this, there is a certain muscular weakness, though, perhaps, not very strongly marked, and a repugnance to any mental or bodily exertion. Such small doses do not exert any influence worthy of note upon the pulse of sound men, though, sometimes, it is less hard and frequent than in the normal condition, and the respirations are somewhat diminished in number. A frequent inclination to pass the water is sometimes observed.

If no more doses are given, in three or four hours, according to the susceptibility of the person, every deviation from the normal condition disappears.

If the same dose be repeated, or a larger quantity be administered, the symptoms above enumerated set in with more rapidity and more violently. The prickling extends from the fingers to the arms; the sensibility of the skin is diminished; the pulse falls about fifteen beats, is weaker, but remains regular; the respirations are four or five less, and are more laborious; the muscular debility increases; in an upright position there is slight vertigo with obscuration of sight, so that the recumbent posture is preferred, and every movement becomes disagreeable. The individual complains of cold, particularly in the extremities, which are cold to the touch, and close upon these symptoms violent nausea and eructations. These symptoms vanish, in from five to six hours, and there remain only fatigue, weakness, and strangury.

After the administration of still stronger doses, or the continuance of the same dose, all the symptoms are increased in a marked degree. The skin loses, in some places. its sensibility,

and violent pains in the head and face set in. At first the pain is pressing, tensive, and boring, and is situated more particularly in the forehead and temples, and is rendered by motion almost insupportable. The facial pains are extended through the course of the nervus-trigeminus, and are accompanied by a feeling of tension in the jaw-bones, the root of the nose, and the lips, as if these parts were swollen and too large. The vertigo is so great as to render it impossible to walk without staggering; the individual is afraid of falling and actually falls. The sight is diminished in proportion as the pupil is dilated. At the same time, the countenance is pale and full of anxiety, the voice is weak, and a tone of anxiety with fear of death sets in. The pulse becomes decidedly less frequent, and weaker, being about 40 a minute. In some cases, which depend on individual peculiarities, the pulse is already very irregular, frequent, and very small. The feeling of general debility is so great that the individual moves about only with the greatest unwillingness; the symptom are all of them aggravated by alterations in the temperature of the surrounding atmosphere; pains similar to those of rheumatism appear in the neck, back, and lumbar regions. The nausea is followed by vomiting, which is succeeded by excessive exhaustion, such as sets in after great loss of blood.

After very large doses, the peculiar poisonous symptoms of the drug set in, in such a manner that the sum total of the symptoms above enumerated appear at once—as after the administration of pure Aconitine—in which case the slighter symptoms are naturally not developed, or the peculiar narcosis is preceded by the symptoms of gastric irritation. In the latter case, the distress and vomiting of variously-colored, often bloody, bilious fluids, pain in the abdomen, meteorism, diarrhœa with tenesmus, are the precursors of the quickly approaching condition of agony. Giddiness and obscuration of the senses give way to complete syncope; speech, hearing, and sight disappear entirely; here and there light delirium is observed; the respiration laborious and rattling; the pulse and beating of the heart exceedingly weak, scarcely perceptible, irregular, and rather accelerated than slow. The countenance assumes the appearance of the facies-hippocratica, the skin all over the body is pale, wrinkled, and covered with cold perspiration, general trembling of the muscles and

light convulsions set in, and death takes place from paralysis of the heart and lungs.

The more abundant the Aconitine in the preparation employed, the more prominently stand out the depressing influence upon the nervous system, while the effects of irritation produced by an acid are less strongly marked. For example, the symptoms which occur in the track of the trigeminus are more rapid and clearer, while the diuresis is markedly increased.

When the use of the tincture of Aconite is continued for days and weeks, in smaller or in moderate doses, the symptoms set in less violently, and the various phenomena do not follow so rapidly upon one another. A predominant affection of the serous and mucous membranes and fibrous structures is, on the contrary, developed, which soon manifests itself in the shape of dyspeptic troubles—it seems, even, that retention of the bile may also be the result of the action of Aconite—soon as rheumatic pains, as well in the cervical-vertebræ, back, and lumbar regions, as the bones, the ligaments of the os-sacrum, and other ligaments of joints. Several experiments have made it appear highly probable that, after the use of Aconite, the pleura-pulmonum et costarum, as well as the pericardium, are incited to increased exhalation and slight serous effusion.

Physical conditions of hyperæmia have also been manifested in the lungs, and in persons whose lungs are the seat of dormant tuberculous deposit, there is easily excited, together with the symptoms of catarrhal cough which Aconite produces in healthy lungs, bloody expectoration. The long-continued use of small doses of Aconite causes headache, great prostration, bad and unrefreshing sleep, dullness of the sensorium, sensibility to variations in temperature and to movement, rheumatic pains in various provinces of the body.

3. The Local Specific Action of Aconite.

Regard from whatever point of view we will, the physiological phenomena of the action of Aconite, as we have just depicted them in a condensed form, and as were presented more in detail by the experiments and cases of poisoning given in the earlier part of our work, simple logic, and natural interpretation accord-

ing to the teachings of physiology, will invariably conduct us to the final conclusion:

1. That these symptoms arise from the nerves, and are caused by them.
2. That this influence is, at first, and after small doses, exciting and stimulating; later, and after larger doses, as well as after strong external application, sedative and paralytic.
3. That the nerves of sensation are more quickly and more strongly depressed that the motory nerves.

The nerves which are acted upon first and preferably by Aconite, are:

1. The nervus-trigeminus with its ramifications.
2. The nerve-ganglia which regulate the movements of the heart and respiration.

It is not until later that the effects of Aconite are manifested in the brain, and later still in the spinal cord, in the same form of depression, but at an earlier period in the course of the nervus-sympatheticus.

The following groups we have arranged according to the individual organs which, from their nerve-attachments and their consensus, are first and most easily affected by the action of Aconite.

Group I.

1. Countenance: facies.
2. Buccal cavity: lips, tongue teeth.
3. Face: sight and hearing.
4. Brain and peripheric system of nerves.
5. Throat and palate: fauces.

Group II.

1. Heart and blood-vessels: movements of the blood.
2. Lungs: respiration.

Group III.

1. Stomach and intestinal canal.
2. Liver: secretion of bile.
3. Kidneys: secretion of urine.

Group IV.

1. Cutaneous organs.
2. Serous and fibrous structures.
3. Spinal nerve-system.

B.—The Therapeutic Employment of Aconite.

If we arrange the experience and curative results which have been made and obtained by practitioners at all times, and with various objects, so that those conditions of disease in whose favor experience has decided most frequently and with the greatest uniformity shall begin the list, while the remaining groups follow after, the result will be as follows:

Aconite is employed with especial benefit:

I. *In Fevers:*

Diseases affecting the movements of the blood, and particularly,

1. Simple, catarrhal, exanthematous, inflammatory;
2. Rheumatic;
3. Intermittent (least of all).

(By physicians of both schools.)

II. *In Inflammations and Congestions:*

1. Of the respiratory organs,
2. Of the heart,
3. Of the eyes,
4. In organic diseases of the heart,

} By physicians of both schools;

5. In all inflammations of each organ, of a sthenic synochal character. By homœopathic physicians.

III. *Affections of the Secerning and Secreting Organs:*

1. Rheumatism and gout, by physicians of both schools, particularly the old;
2. Dysentery, the same;
3. Acute-exanthemata, particularly by physicians of the homœopathic school;
4. Chronic exanthemata, only by physicians of the old school.

IV *Diseases of the Nervous System.*

1. Neuralgias of every kind,
2. Neuroses,

} More by physicians of the old school, but by some of them very extensively.

V. *Diseases Affecting the Assimilation of the Blood.*

1. Tuberculosis-pulmonum, by physicians of both schools, as a depressant remedy in the blood-system;

2. Scrophulosis,
3. Carcinoma,
4. Malleus-humidus,
5. Pyæmia,

} Seldom, and by physicians of both schools.

VI.—*Some other Diseases under the above Captions.*

1. Hæmorrhages,
2. Hæmorrhoids,
3. Hydrops,
4. Fluor-albus,

} Here and there, by physicians of both schools;

5. Cholera,
6. Icterus,

} Only by homœopathic physicians.

VII. *Mental Disorders.*

Very rarely, and recommended for the most part *a priori*.

C.—Preparation, Dose, Form.

Every plant differs more or less in respect to the active principle it contains, according to locality, age, season, species, and individual parts of the plant. Its constituents undergo a further alteration in drying, by unskillful pharmaceutic manipulation, and by bad preservation of the preparation. The physician who is desirous of using a pharmaceutic preparation, as powerful, and, at the same time, as constant as possible, and which shall contain the medicinal properties of the plant in a high and uniform degree—must understand thoroughly the modifications and differences above mentioned, or the weapon in his hand will be too sharp or too dull.

This is the case with Aconite. Fortunately, the very accurate investigations of men of experience—Fleming, Reichenbach,

Hartlaub, Schroff, Zobel—enable us to form a perfectly fair estimation of the efficacy of Aconite and its preparations in a pharmaceutic and pharmaconostic relation. In what follows, we present the results of the investigations of the authors mentioned, particularly Schroff's, which have the greatest claim to solidity.

1. With regard to the botanical varieties of Aconite, it is sufficient for the pharmacology and pharmaconostic part of our subject to include all blue-blossoming species of Aconite under two principal varieties—namely, Aconitum-napellus and Aconitum-variegatum, including Ac.-cammarum. The first varieties, belonging to the Aconitum-napellus, are, in all their parts, stronger than those belonging to the Aconitum-variegatum, whether they grow wild or are cultivated.

2. All those varieties of Aconite which grow wild are much stronger and more powerful in the active constituents of the plant than are the corresponding plants which are cultivated; the most inert is the Ac.-Störckianum (Reichenbach), cultivated in the gardens.

3. Parts of the plant. It is true that the active principle is contained in all parts of the plant; that is, the Aconitine and an acid principle, which has not been isolated up to this time; but these principles are not uniformly distributed throughout every part of the plant. The root is the richest in them; the stalk contains less, but is strong enough, while the seeds contain least of all.

4. Age and season. There is no perceptible difference in the efficacy of old and young roots. The stalk is stronger before blossoming than at a later period, but is always six times weaker than the root of the same time.

5. If the stalk and root be carefully dried, and are laid up preserved from moist air, so that the former keeps its green color, they will retain their active principles—for they are not volatile, a long time without deterioration. But if, on the contrary, warmth and moisture have caused the formation of mould and ammoniacal decomposition of the stalk, which seems to lose its proper color, the active constituents are perceptibly diminished.

6. Hence, it is evident that the most powerful pharmaceutical preparation of Aconite is to be obtained from the fresh stalk and roots of Aconite, gathered before the season of flowering, and freshly prepared.

7. In regard to the pharmaceutic preparation, Alcohol seems to be the material which is best suited to extract the active principle of Aconite, and to preserve it unimpaired.

The extract obtained by thickening, from the freshly expressed juice, without the addition of alcohol, is very liable to destruction, and is far less powerful than the alcoholic, the relation of the former to the latter being as one to four.

8. The extractum Aconiti-spirituosum or alcoholisatum of the pharmacopœa, as well as the extr. Aconiti-alcoholisatum siccum, of the Pharm. Boruss. (sixth edition), on the one hand, and the tincture of the roots and the fresh herbs, obtained by maceration in alcohol—not obtained by mixing the freshly-expressed juice with alcohol—on the other, constitute the most powerful and uniform preparations.

9. Of these two preparations, the extract is preferable to the tincture only when there is occasion to administer large and repeated doses of Aconite, in which case the immediate action of the alcohol taking place at the same time and together with it, would produce disturbances and modifications in the action of the drug.

10. Concerning the dose to be administered internally, it need only be remarked, that from two to five drops of the tincture, repeated every hour or every two hours, are, in appropriate cases, in almost every instance sufficient to procure a decided effect upon the circulation. An increase of the dose will seldom be necessary, and, indeed, the thousand times repeated experience of homœopathic physicians shows that a much smaller, even the smallest dose which is offered by the scale of dilution, if the choice of the remedy is made correctly, is sufficient to arrest the progress of the disease.

The extract may be given in doses, at first, of one-twelfth of a grain, which may be increased to one to three grains, several times a day.

11. For external use, the pure tincture, or the tincture diluted with equal parts of alcohol may be employed; or an ointment of the strength of half a drachm or a drachm of the spirituous extract to one ounce of adeps; or a solution of Aconitine in alcohol, or a mixture of it with adeps, in the strength of one to two grains to a drachm.

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ACONITUM NAPELLUS.

See Frontispiece.

French, Aconit-napel; German, *Eisenhütlein, Mönchskappe, Sturmhut, Wolfswurz;* English, Large, blue Wolfsbane, Monkshood, Aconite.—*Ranunculaceæ.*

This plant grows all over Europe, and is even cultivated in gardens. For homœopathic purposes, we use that which grows on the summit of the Alps, in Switzerland, Stiria, on the mountains of Bohemia and Silesia, at a greater elevation above the sea than Veratrum.

The stem of this plant is cylindric, rounded, erect, from two to three feet high; leaves petiolated, divided into five or six lobes, palmated; the lobes are wedge-shaped, pinnafid, alternate, dark-green on the upper, and light-green on the lower surface, shining on both sides. Flowers deep-violet, seldom pale-blue or whitish; panicled at the end of the stem; calyx null; two nectaries pedicelled and revolute, short, thick; seeds acute, triangular, rugose on the back.

We gather the wild plant in June and July, when in flower, except the root, and prepare an essence from it* of a dark brown-yellow color, a strongly narcotic smell, and a nauseous and slightly bitter taste. This is according to Buchner and Gruner, but it is now well known that from the root a most powerful tincture is also prepared.

* The juice can be obtained in a sufficient quantity, by squeezing it out by means of a good press. (Before pressing out the juice, the plant should first be cut in small pieces, and then pounded in a stone mortar; otherwise the expression of the juice would be exceedingly imperfect). This altogether mechanical pressure being insufficient to obtain all the efficacious constituents of the plant, especially the volatile and resinous parts: it is indispensable to subject the residue to the action of strong alcohol, for which purpose we take a quantity of alcohol equal in weight to that of the obtained juice, and *no more*, even if the residue should not even be covered by the alcohol. In the meanwhile, the vegetable juice which was obtained in the first instance, is kept in a lightly-guarded glass vessel in a cool cellar. After the lapse of from one to three days, before, however, the juice has had time to ferment or become decomposed, the residue is again subjected to pressure, and the tincture thus obtained will contain the larger portion of the extractable matter, as may be inferred from the taste, smell, and color of the tincture, and is then mixed with the juice obtained by the first pressure. This mixture, having been allowed to settle for several days, it is then filtered and kept for use.

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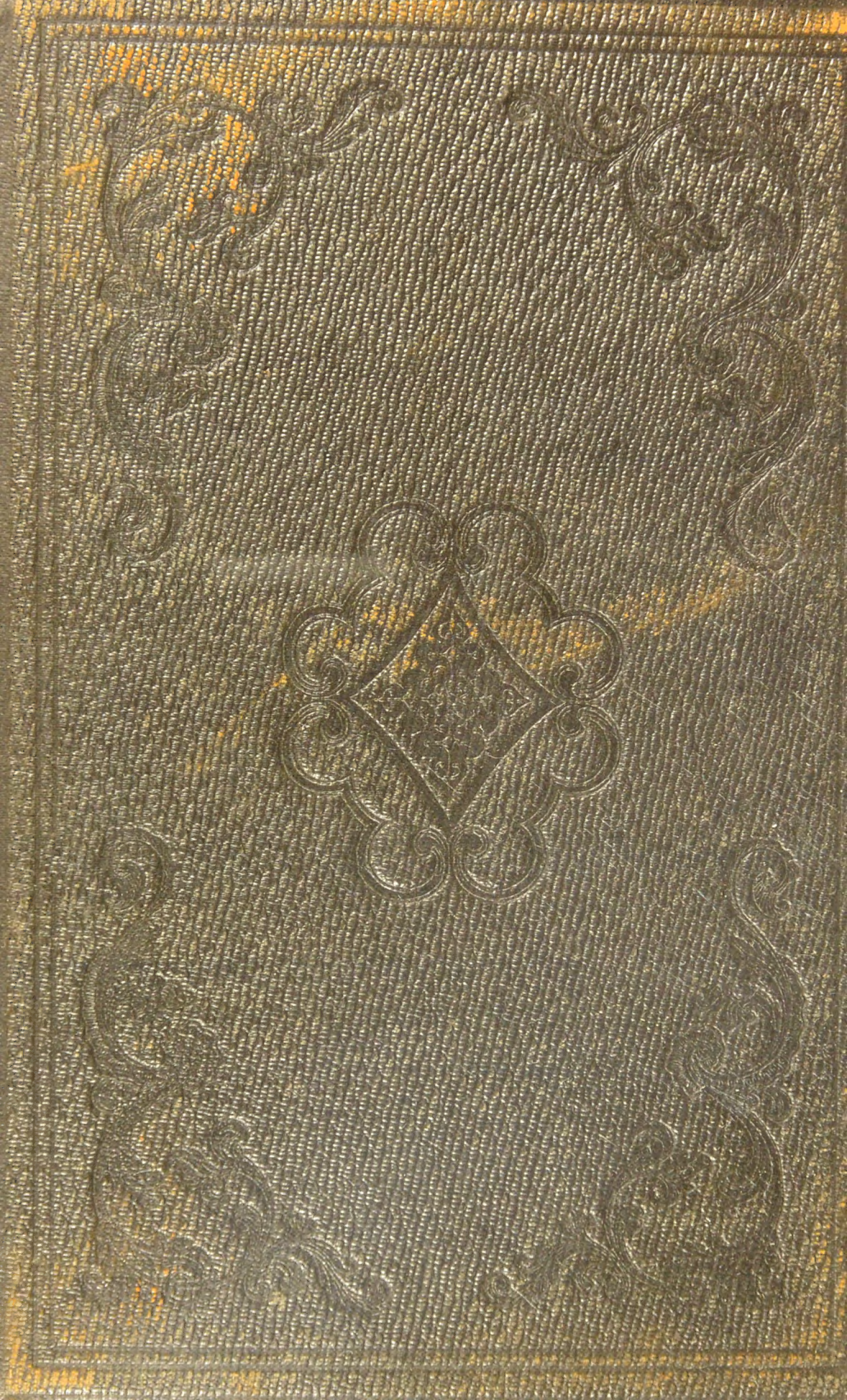
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